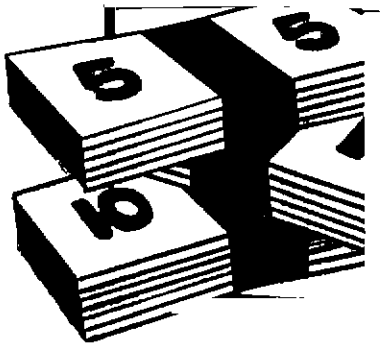

EXPENDITURES FOR UNIVERSITY INSTRUCTION

CALIFORNIA POSTSECONDARY EDUCATION COMMISSION

APRIL 1993 COMMISSION REPORT 93-2

Summary

To understand how California's public colleges and universities compare to other institutions in terms of their instructional costs, in 1991 the California Legislature called on the California Postsecondary Education Commission to analyze "the total costs to the state of the instructional mission in the three segments of public higher education, in comparison, to the extent possible, with comparable public and private institutions in California and nationally"

The Commission decided that to define the study narrowly in terms of focusing only on the State's costs associated with instruction would squander a valuable opportunity to view the costs of California's colleges and universities in the context of the economics of higher education nationally Thus it undertook a wide-ranging study of State and institutional expenditures for instruction, using comparative data from other states and institutions wherever possible It recognized that different definitions of cost are useful for different purposes, and in light of these different purposes, it decided to employ several of them in the study, without prejudice to any of them

This report constitutes the Commission's response to the Legislature Part One summarizes the most important findings and definitions used in the study Part Two explains the origins and background of the study and reports the average and marginal cost per-student appropriated by the State to support instruction in the California State University and the University of California Part Three describes the Commission's general approach to the study Parts Four and Five detail findings on the per-student instructional expenditures for the California State University and the University of California, respectively, and compares those expenditures with two sets of comparison institutions (1) universities used for faculty salary comparisons, and (2) a national group of universities who have institutional missions similar to those of the University and State University Part Six traces changes in State appropriations from 1989-90 (the most recent year for which expenditure information needed in this study are available) through 1992-93 in order to underscore the changes in State support for instruction over the past three years -- a time of severe revenue constraints for states resulting from national recessionary pressures Part Seven describes planned next steps in the Commission's studies of instructional costs and institutional financing The appendices describe the origins and methodology of the study

The Commission adopted this report at its meeting on April 19, 1993, on recommendation of its Fiscal Policy and Analysis Committee Additional copies of the report may be obtained from the Commission at 1303 J Street, Suite 500, Sacramento, California 95814-2938

EXPENDITURES FOR UNIVERSITY INSTRUCTION

A Report to the Governor and Legislature in Response to Supplemental Report Language for the 1991 Budget Act

CALIFORNIA POSTSECONDARY EDUCATION COMMISSION
1303 J Street • Suite 500 • Sacramento, California 95814-2938

CALIFORNIA POSTSECONDARY EDUCATION COMMISSION

COMMISSION REPORT 93-2
PUBLISHED APRIL 1993

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Contents

Displays

1 Overview of the Report: The Economics of Higher Education

IN ORDER to understand how California's public colleges and universities compare to other institutions in terms of their instructional costs, the California Legislature proposed Supplemental Language to the 1991-92 State Budget calling on the California Postsecondary Education Commission to analyze "the total costs to the state of the instructional mission in the three segments of public higher education, in comparison, to the extent possible, with comparable public and private institutions in California and nationally" (page 65 of Appendix A, below)

"Analyzing instructional costs in institutions as large and diverse as California's colleges and universities does not lend itself to simple or singular answers"

This legislative charge to the Commission may seem somewhat straightforward and of only limited technical interest, but in fact it is extremely complex and significant for a wide range of policy issues facing California Analyzing instructional costs in institutions as large and diverse as California's colleges and universities does not lend itself to simple or singular answers Even defining what is meant by an institution's "instructional mission," let alone its "instructional costs" raises a variety of strongly held opinions -- particularly because questions of instructional cost cannot help but involve the core activities and the central economics of any academic enterprise Not only institutional budgets but institutional reputations are at stake -- affecting everything from the prospects for future institutional funding to the career prospects of faculty members and administrators

As a result, the Commission has sought to approach this task with the complexity and discretion it deserves

- It has consulted with all interested parties -- as it seeks to do in all of its work -- but at greater length than in virtually any other of its previous studies
- It early determined that to define the study narrowly -- by focusing only on the State's costs associated with instruction -- ran the risk of not only oversimplifying an inherently complex subject but also squandering a valuable opportunity to view the costs of California's colleges and universities in the context of the economics of higher education nationally
- It recognized that different definitions of cost are useful for different purposes, and in light of these different purposes, it employs several of them in this report, without prejudice to any of them

- Most importantly, it realized that the findings of the study are likely to be seriously misused if they are misinterpreted, and for this reason it attempts to explain as clearly as possible in the following pages both the significance and the limitations of these findings

The analogous economics of higher education and major-league baseball

"Because of the complexity and somewhat arcane nature of higher education financing, the Commission believes it useful to illustrate its basic features by analogy"

Because of the complexity and somewhat arcane nature of higher education financing, the Commission believes it useful to illustrate its basic features by analogy, comparing higher education to another major enterprise that enjoys both wide scrutiny and at least general public understanding of its economic operation To this end, the Commission has selected major-league baseball As with the question, "What is the cost of college or university instruction?" the answer to the question, "What is the cost of major-league baseball?" depends entirely on who's costs are at issue -- for example, those of the fans, the owners, the advertisers and other sponsors, and even the players Thus costs can differ widely depending on who is asking the question and for what purposes the question is being asked

As an illustration, for baseball fans the direct cost of major-league baseball can be seen as the ticket price, although fans may have numerous related expenses beyond ticket price, such as parking and refreshments -- and even some indirect costs, such as lost earnings or sales because of attending the game

On the other hand, advertisers and other sponsors -- the major revenue source besides the fans for major-league baseball through television contracts, stadium billboards, space ads in programs, product promotions, and other means of attracting attention -- perceive the cost of baseball much differently They ordinarily define this cost by the type and total volume of advertising they choose to purchase or, in some cases, by the cost of an individual advertisement

In other words, advertisers and other sponsors do not see the price of attending a game as the "cost of baseball," any more than most baseball fans see advertising rates as the cost of the game Indeed, fans and advertisers are generally interested in each others' costs only insofar as they see those costs as affecting their own interests For example, if ticket prices rise to the point that attendance begins to slip, advertisers become concerned over the number of persons exposed to their ads and whether or not their investment is realizing the return that they initially expected Likewise, if advertising revenues decline and team owners are forced to raise ticket prices to make up the lost income, then baseball fans become intensely interested -- even if they don't generally link the rise in ticket prices to declining advertising revenue

Just as the perspective on the "cost of baseball" differs between fans and sponsors, it also differs for team owners For them, the cost of baseball

typically means all the expenditures needed to deliver the total baseball product, regardless of whether the revenue to meet those costs derives from ticket sales or advertising For planning purposes, owners obviously need a detailed understanding of past trends and likely prospects for each of these revenue sources, but owners are not particularly interested in what portion of their players' salaries and their other costs are paid with advertising as opposed to ticket sales, and it is not particularly useful for them to organize their accounting procedures for tracking expenditures in terms of these revenue sources

For team owners, the bottom line is obvious -- total revenue minus total expenditures generates the operating profit or loss However, in the event that advertising revenues decline or attendance begins to drop, team owners must look at their internal cost profiles to see where economies of operation can be made For baseball teams, the major cost center is the player payroll, but numerous other costs are integral to delivering the baseball product, including among many others, stadium costs, utilities, equipment, security, and administration By looking only at total expenses, owners limit their ability to isolate and examine the effect that these components of the budget have on the bottom line Moreover, by looking only at player payroll, they miss opportunities to identify other, albeit more limited, cost savings in their total budget

"Just as the major cost center for baseball team owners in 'providing baseball' is the player payroll, so in higher education the major cost center for institutions in 'providing instruction' is faculty compensation "

As with baseball, so with higher education Similar relationships exist between baseball fans and students, between team sponsors and state and federal government, and between the owners of baseball teams and institutional policy makers -- trustees, administrators, and faculty governing bodies

For instance, students and state governments are understandably interested in the particular purposes to which their moneys are put, but for colleges and universities themselves, tracking how they spend specific dollars from these specific revenue sources has limited utility and involves high administrative costs In this report, the Commission notes costs to students and to the State of California for providing instruction through public colleges and universities, but it pays particular attention to the costs incurred by these *institutions* themselves for providing instruction As with baseball teams, these institutional costs, as funded from all revenue sources, are different than either the State's costs for supporting instruction or the students' costs of attendance

Just as the major cost center for baseball team owners in "providing baseball" is the player payroll, so in higher education the major cost center for institutions in "providing instruction" is faculty compensation But by looking only at faculty compensation, institutional policy makers may fail to recognize and consider cost areas in other portions of the budget And without looking at what faculty compensation actually underwrites, insti-

tutions may miss possible ways to accomplish their mission while containing costs

In addition, parallels may be drawn between baseball teams and academic institutions in terms of their costs related to their overall operations Thus it may not stretch the analogy too much to compare the financing of a baseball team's minor-league system with the research activities carried out by universities where research is a major mission Just as a franchise's minor-league teams represent a long-term investment in developing future major-league talent, university research activities represent a long-term investment in creating new knowledge and developing the next generation of faculty Certainly minor-league expenses should not be immune from scrutiny where savings are possible that do not threaten the long-term health of the franchise Yet the scope of these minor-league operations may be of such a scale -- as are research activities in public research universities -- that their inclusion would obscure development of a thorough understanding of the more narrow question of the direct cost of operating the major-league team In addition, if minor-league costs vary widely between different teams -- as research expenses do between research universities -- then their inclusion could make comparisons of the day-to-day operating costs between different major-league teams meaningless

Similarly, many baseball teams are involved in extensive philanthropic work in their communities, not unlike the public service activities carried on by colleges and universities But team owners must be willing to identify these activities and separate their costs, if possible, from those related to the direct "cost of baseball," particularly if it is necessary to identify potential cost-containment strategies for the team

Thus, if a major-league team needs a better understanding of the costs associated with its day-to-day operations, it may appropriately exclude those expenses related to its minor-league operations and its philanthropic activities, even though those expenses may be essential to the long-term health of the team and major-league baseball in general Similarly, the Commission has approached its study of the costs of the "instructional mission" in California's public colleges and universities by excluding expenditures for research and public service activities from institutions' instructional costs where expenditures for these services can be seen as largely unrelated to costs for the specific instruction of students

"given the varied questions that arise -- whether in baseball or higher education -- multiple measures of cost are required if decision makers are to have all the information they need to cope with the dual problems of lower attendance and declining revenue "

In summary, given the varied questions that arise -- whether in baseball or higher education -- multiple measures of cost are required if decision makers are to have all the information they need to cope with the dual problems of lower attendance and declining revenue The costs to both fans/students and sponsors/government have to be defined and examined with respect to their effect on attendance/enrollment, as well as the total revenue base they provide in the effort to field a winning team/produce well-

educated graduates through high-quality instruction Moreover, while simultaneously excluding those expenses that are not directly related to the analytic question at hand, the cost profile of teams/institutions must be carefully developed, isolating major cost centers such as player/faculty payroll, then layering on additional expenses related to operating the franchise/institution

Students' costs of instruction

"Given the fiscal crisis currently plaguing California, the Commission has found it necessary to look at instructional expenses incurred at the student, State, and institutional levels"

Given the fiscal crisis currently plaguing California, the Commission has found it necessary in this study to look at instructional expenses incurred at the student, State, and institutional levels In terms of "direct cost to the student" -- a subject on which the Commission has commented extensively elsewhere -- for 1992-93, California's public colleges and universities are charging these mandatory fees

System or Institution	Resident Students	Out-of-State Students
University of California (an average of the eight general campuses)	$3,044 for undergraduates, including a $2,824 systemwide fee	$10,743 for undergraduates, including $7,699 in tuition
The California State University (an average of the 20 campuses)	$1,456 for undergraduates, including a $1,308 systemwide fee	$8,856 for undergraduates, including $7,414 in tuition
California Community Colleges	$10 per unit for students without a bachelor's degree, but $50 per unit for those with one	Varies by district
California Maritime Academy	$1,300	$4,000
Hasting College of the Law	$3,420	$11,119

Clearly these student fees do not cover students' total costs of attendance, which include books, other supplies, transportation, and living expenses (Data on those costs for 1991-92 will shortly be available from the Student Expenses and Resources Survey of the California Student Aid Commission) Not included in any of these calculations are the "opportunity costs" of students -- their forgone income by attending college rather than working

The State's cost of instruction

Concerning costs to the State of California for instruction in higher education, the Postsecondary Education Commission has published a detailed description of the budgeting processes used by the State for higher education (March 1992) that explains how the State approaches funding for each of California's three major public higher education systems -- the California Community Colleges, the California State University, and the University of California -- but in brief those different approaches have these three common elements

1 Each year at the beginning of the State budget cycle, policy makers in the executive branch of government examine the system's previous year State General Fund appropriation -- considered its "base budget" -- and through a variety of ways, depending on the system, proceed to make decisions regarding appropriate adjustments to that base budget These adjustments are generally based on factors such as general inflation, salary cost-of-living adjustments, and merit salary adjustments As the past several years have demonstrated, in the event of State budget deficits, policy makers can also make decisions to adjust a system's base budget downward, either on an across-the-board basis or in specific budget categories

2 After making adjustments to the base budget, State policy makers assess likely additional enrollment for the system in the coming budget year and then calculate, based upon previously agreed-to formulae, the additional State funds that will be necessary to accommodate the projected enrollment increase

3 Traditionally, no system has received State appropriations for enrollment increases that are equal to the average per-student appropriation provided for its current enrollment, as funded in its base budget The State provides fewer funds per full-time-equivalent student for enrollment increases than it provides on a per-full-time-equivalent-student basis in the base budget because it assumes that the systems experience "economies of scale" for additional enrollment The principle of economies of scale applies in higher education as follows When a campus is small, per-student costs are very high because certain fixed costs must be spread over fewer students However as the campus grows, these costs can be spread over an increasing enrollment base, thus allowing it to accommodate additional students at lower cost as it expands Thus, the cost to the State for financing additional enrollment on the margin (the State's "marginal cost") is substantially lower than the "average" cost per student funded by the State for a campus or a system as a whole

"the cost to the State for financing additional enrollment on the margin (the State's "marginal cost") is substantially lower than the "average" cost per student funded by the State for a campus or a system as a whole "

The State's average cost of instruction

California's average cost per full-time-equivalent student in each system can be seen in its simplest form as total State General Fund appropriations to the system, divided by total full-time-equivalent enrollment However, because the State provides funds for each of the systems to finance activities that are unrelated to instructional activities, to calculate the costs of each system's instructional mission, it is necessary to examine the components of each systems' total General Fund appropriation in order to isolate only those funds related to financing that mission The specific methodology employed to identify these instructionally related appropriations are outlined in Appendix B, but the results of this analysis for the State's three

systems of higher education during 1991-92 are displayed here

University of California	$8,911
The California State University	$6,037
California Community Colleges	$2,989

(The $8,911 figure for the University of California does not include expenditures for health sciences instruction, the University's teaching hospitals, organized research, or separately funded public service The $2,989 figure for the California Community Colleges includes local property tax revenues of $844 per student)

The State's marginal cost per student

The State's marginal cost per student for each of California's three systems can be seen as the appropriation it routinely receives for each additional full-time-equivalent student that it enrolls The specific formulae employed for calculating these marginal costs are quite different for each system, and their products are the actual appropriations per full-time-equivalent student provided to each system by the State for enrollment growth

Institutional expenses for instruction

As noted in the analogy with baseball on pages 2-3 above, an institution's total expenditures for instruction differ from the State's instructional costs because they reflect all funds expended by the institution to finance its instructional mission, regardless of revenue source, whereas the State's cost represents only those funds that the State appropriates to subsidize accomplishment of the institution's instructional mission

"rather than relying on only one measure of institutional expenditures for instruction, the Commission has calculated four of them (1) Direct Instructional Expenditures, (2) Reported Instructional Expenditures, (3) Adjusted Instructional Mission Expenditures, and (4) General Operations Expenditures "

For this report, rather than relying on only one measure of institutional expenditures for instruction, the Commission has calculated four of them, each in terms of expenses per full-time-equivalent student (1) Direct Instructional Expenditures, (2) Reported Instructional Expenditures, (3) Adjusted Instructional Mission Expenditures, and (4) General Operations Expenditures In the following paragraphs, the Commission defines each of these measures and highlights the differences among them with brief analogies of major-league owners' expenses in fielding their teams

Direct Instructional Expenditures

This per-student figure includes faculty compensation and related departmental support funds that are specifically devoted to accomplishing an institution's instructional mission It represents an effort to identify the *direct* and *specific* instructional costs borne by an institution in carrying out its instructional mission It seeks to focus on an institution's single largest cost center (faculty compensation and departmental support) and identify those expenditures that are directly related to delivering or supporting the instructional activities of academic institutions

In terms of baseball, Direct Instructional Expenditures are equivalent to team owners' expenses for the players' playing or preparing to play major-league ball, plus any narrowly defined support services for them To the extent that players' contracts also provide for minor-league time, community service, or other activities unrelated to actually playing or preparing to play major-league baseball, this compensation would be deducted to isolate the team owners' "direct cost" of major-league baseball

The missions of both the California Community Colleges and the California State University provide that almost all faculty time be devoted to the direct or indirect support of the instructional mission of these institutions For example, even though faculty members at the State University engage in research, California's Master Plan for Higher Education defines the State University as the State's primary teaching university and explicitly prohibits it from compensating them for pursuing research activities unrelated to its instructional mission

This is not true, however, for the University of California, which the Master Plan defines as the State's major research entity and which requires that its faculty undertake significant research activities, whether or not they are directly related to their teaching responsibilities After extensive consultation with representatives of the University, the Commission has agreed to base its calculation of the University's Direct Instructional Expenditures on the University's estimate of the allocation of total faculty workload between faculty members' instructional and non-instructional duties at the University and other major research universities nationally Specifically, faculty time-use studies at both the University of California and other major research universities nationally indicate that their faculty spend an average of 54 3 percent on instructional or related activities and the remaining 45 7 percent on research and public service activities that are non-instructionally related For these universities, Direct Instructional Expenditures thus represents the Commission's best estimate of their per-student expenditures *directly* related to instruction

"faculty time-use studies at both the University of California and other major research universities nationally indicate that their faculty spend an average of 54 3 percent on instructional or related activities and the remaining 45 7 percent on research and public service activities that are non-instructionally related "

Reported Instructional Expenditures

This estimate is named "Reported Instructional Expenditures" because it represents the expenditure figures that institutions report to the federal government for instruction, as the government defines "instruction" -- including "expenditures for departmental research and public service that are not separately budgeted "

Analytically for this study, the single difference between Reported Instructional Expenditures and Direct Instructional Expenditures is that for research-oriented universities Reported Instructional Expenditures includes all compensation for instructional faculty, even if their specific job respon-

"the single difference between Reported Instructional Expenditures and Direct Instructional Expenditures is that for research-oriented universities Reported Instructional Expenditures includes all compensation for instructional faculty, even if their specific job responsibilities include a significant amount of activity in work unrelated to instruction"

sibilities include a significant amount of activity in work unrelated to instruction In baseball parlance, it would include *all* player payroll and related player services

For the California Community Colleges and the California State University, Reported Instructional Expenditures is the same as Direct Instructional Expenditures because their faculty are not permitted under the Master Plan to pursue research activities unrelated to its instructional mission For research universities like the University of California, however, a considerable difference exists between the two figures because they commonly expect their faculty to devote a substantial amount of time to research and public service activities, some of which may not directly support their teaching activities As a matter of practice, research universities almost always list research and public service activities as significant responsibilities, along with instruction, in their job descriptions for new ladder-rank faculty Thus, while a portion of the compensation they provide faculty members may not be defined as an "instructional cost" *per se,* the category of Reported Instructional Expenditures recognizes that, given the current faculty employment practices of these institutions, these non-instructional expenses are still an unavoidable part of the cost of carrying out their instructional mission

Adjusted Instructional Mission Expenditures

"This category of expense seeks to identify both the expenses directly related to carrying out the instructional mission as well as funds devoted to necessary support of that mission"

This category of expense seeks to identify both the expenses directly related to carrying out the instructional mission as well as funds devoted to necessary support of that mission It takes Direct Instructional Expenditures as its base and adds the expenses for other institutional activities that are integral to accomplishing the instructional mission of American colleges and universities -- student services, libraries, academic administration, general institutional administration, and maintenance and operation of the physical plant Like Direct Instructional Expenditures, which aims to exclude all non-instructionally related faculty compensation, Adjusted Instructional Mission Expenditures seeks to exclude expenditures for separately funded research, separately funded public service, and compensated faculty time and related support that are devoted to these non-instructional activities

The baseball equivalent of this measure includes the player payroll and player services related to the game as well as those costs associated with preparing for and playing the baseball season, such as stadium expenses, utilities, transportation, uniforms, and administration directly related to the games -- but it excludes the overhead and administrative costs related to the non-major-league portion of a team's budget, such as minor-league operations and community services

General Operations Expenditures

"The difference between this estimate of expenses and Adjusted Instructional Mission Expenditures is identical to the difference between Reported Instructional Expenditures and Direct Instructional Expenditures"

The difference between this estimate of expenses and Adjusted Instructional Mission Expenditures is identical to the difference between Reported Instructional Expenditures and Direct Instructional Expenditures As its base, this estimate uses Reported Instructional Expenditures -- all faculty compensation and related direct support, including faculty compensation for non-instructional activities -- and adds expenditures for the same additional support activities included in Adjusted Instructional Mission Expenditures student services, libraries, academic administration, general institutional administration, and physical plant maintenance and operation It *excludes* expenditures in these support categories that are related to separately funded research and public service, but it *includes* those expenditures that support the non-instructional faculty activities included as Reported Instructional Expenditures

For the California Community Colleges and the California State University, General Operations Expenditures are the same as Adjusted Instructional Mission Expenditures, for the same reason that Direct Instructional Expenditures are the same as Reported Instructional Expenditures For the University of California and other research universities, however, General Operations Expenditures include compensation and related support for non-instructional faculty activities that Adjusted Instructional Mission Expenditures exclude as non-instructional The reason is that for research universities, these costs represent unavoidable faculty expenses because of the multiple job responsibilities of instruction, research, and public service that they expect nearly all of their general instructional faculty to undertake

The baseball equivalent of this cost estimate includes the entire player payroll and related player services, as does Reported Instructional Expenditures But like Adjusted Instructional Mission Expenditures, it also covers additional expenses such as stadium costs, utilities, and uniforms In addition, where costs in such areas as administration can be apportioned between direct game-related and non-game-related areas, it include both types of cost, even though -- like all three other measures -- it excludes any separately budgeted cost of minor-league and community service activities

Reasons for the multiple measures

The Commission presents these four instructional expenditure estimates not to confuse the issue of instructional costs but to address at least some of the complexity inherent in analyzing the expenditures of institutions of such size and diversity as colleges and universities

Clearly the question, "What is the cost of instruction in higher education?" can be answered accurately, but to do so requires that it be an-

swered in relevant ways, depending on the specific intent of the persons asking the question and the analytic or policy issue they raise Therefore the Commission has opted for developing these multiple cost measures based on the assumptions that more information is better than less and that no one's interests will be served by myopically focusing on any one measure as "*the* cost of instruction" The fiscal challenges currently facing higher education require enough depth and subtlety of understanding that the Commission would be remiss if it did not seek to reflect in studies such as this some of the scope and complexity inherent in the economics of higher education Singular definitions and simple numbers do not suffice in describing the spending patterns of academic institutions

"Singular definitions and simple numbers do not suffice in describing the spending patterns of academic institutions"

- In brief, the Commission has concluded that Direct Instructional Expenditures best indicate *the amount of money that institutions spend specifically to teach their students, including departmental support of this teaching*
- Reported Instructional Expenditures best indicate *the total amount institutions spend to pay and support their teaching faculty*, apart from any separately funded research or public service
- Adjusted Instructional Mission Expenditures best indicate *the amount institutions spend to carry out and support teaching -- including indirect costs ranging from sweeping the classroom floors and heating or cooling instructional buildings to maintaining reserve textbook collections in the library and administering academic departments.*
- Finally, General Operations Expenditures best indicate *the total amount institutions spend to support all of their activities except for separately funded research, public service, overhead related to these two activities, and self-supported operations such as running parking garages and operating student housing*

Risks of misusing the multiple measures

While the Commission believes that each individual cost estimate presented in the following pages is useful for some specific purpose, the same estimate may also be irrelevant and dangerously misleading for others

In particular, if readers do not understand the distinctions between these four institutional expenditure categories, they are likely to make uninformed comparisons between the California State University and research universities such as the University of California, including the inappropriate conclusion that -- based on Direct Instructional Expenditures or Adjusted Instructional Mission Expenditures -- per-student instructional expenditures at the State University are higher than those at the University

This conclusion would be false because none of the four institutional ex-

penditure categories represent the amount of per-student support provided by the State of California to its public universities for carrying out their instructional activities Rather, these categories represent funds devoted by the universities themselves to carry out their instructional activities as defined under the Master Plan Since the methodology that the Commission has employed for estimating Direct Instructional Expenditures and Adjusted Instructional Mission Expenditures results in research universities having significant funds reallocated from instructional categories to research and public service, these adjustments serve to close the instructional expenditure gap between research universities and comprehensive institutions such as the California State University While these cost estimates accurately reflect the actual resources devoted by each type of institution to carry out its instructional activities, they do not reflect the fact that for research universities the excluded non-instructional expenditures are still an unavoidable expense in carrying out the instructional component of their multiple missions

While states provide the majority of the funds to public institutions that are accounted for under both Direct Instructional and Adjusted Instructional Mission Expenditures, they must also provide significant additional funds to finance the added research and public service missions undertaken by research universities The magnitude of the additional state support required in California to finance the broader missions of the University of California than the California State University can be seen in the estimates of the State's average and marginal per-student costs listed on pages 5 and 6 above

Because of the potential dangers of misusing the data in this report, the Commission asks readers that before making narrow policy judgments about specific expenditure estimates or institutional comparisons contained in the document, they read the report in its entirety, including especially the methodology described in Part Three and Appendix B and the Commission's plans for future related studies outlined in Part Seven

Summary of state and institutional expenditures for instruction

As called for in the Supplemental Language that led to this report, the Commission has been able to calculate the total cost of the "instructional mission in the three segments of public higher education, in comparison, to the extent possible, with comparable public and private institutions in California and nationally," but it has been able to do so only for *institutional* expenditures and not for *State* expenditures The reason is that reliable national data are not available for comparing state appropriations for instruction on an institution-by-institution basis among the states As noted earlier, colleges and universities ordinarily do not track the expenditure of specific dollars in terms of the revenue source that generated these funds This fact makes it impractical to isolate the amount of state revenues de-

voted to instructional activities on individual campuses based on institutional data Compounding this difficulty is lack of uniformity in both the definitions and categories that different states use in their budgets to appropriate funds to their public colleges and universities This means that, like the available institutional data, budget data from the states are not useful for deriving accurate estimates of the states' cost of providing instruction

Nonetheless, for two reasons the Commission has been able to provide national comparisons of the *institutional* expenditures for instruction of the California State University and the University of California (1) All American colleges and universities are required to report expenditure information consistently and uniformly to the federal government through its Integrated Postsecondary Education Data System (IPEDS), and (2) Data are available on California's two public universities and comparable institutions for a relatively recent year -- 1989-90

However, the Commission has been unable to undertake this national comparative analysis for the California Community Colleges both because many community colleges had not yet reported comprehensive 1989-90 expenditure information by the time the Commission undertook the study, and the Commission lacked staff resources to gather these data independent of IPEDS

For these reasons, the following paragraphs report State appropriations for carrying out the instructional missions of all three systems, without national comparisons, and they also report *institutional* expenditures in national context of the California State University and the University of California for carrying out their instructional missions

California Community Colleges

As noted on page 6, the Commission has calculated that for 1991-92 the State and local governments provided $2,989 to the California Community Colleges for each full-time-equivalent student, with total revenues for the system of $3,178 per student, as follows (1992a, p 8)

State General Fund and Local Property Tax Revenue	$2,989
Lottery Revenue	89
Student Fee Revenue	100
Total Average Revenue	$3,178

The California State University

For 1991-92, the State provided $6,037 through General Fund support for each full-time-equivalent student at the California State University, contributing to total per-student revenues of $7,551 as follows

State General Fund	$6,037
Student Fee Revenue	1,129
Lottery Revenue	100
Other Revenue Sources (non-resident tuition, application fees, overhead from grants and contracts, etc)	285
Total Average Revenue	$7,551

State University expenditures for instruction

Part Four of this report presents the Commission's detailed findings about the State University's expenses for fulfilling its instructional mission, including campus-by-campus and institution-by-institution comparisons, but the following paragraphs summarize the highlights of those findings

"In 1989-90 the State University's Reported and Direct Instructional Expenditures per full-time-equivalent student were $4,538 its Adjusted Instructional Mission and General Operations Expenditures for that year averaged $7,386 per student "

In 1989-90 -- the latest year for which comparative data are available -- the State University's Reported and Direct Instructional Expenditures per full-time-equivalent student were $4,538 These two expenditure figures are identical because, unlike the mission of the University of California and some of the State University's faculty-salary comparison institutions, the mission of the State University requires that its faculty's research and other activities all support its instructional mission Thus the Commission has not adjusted the State University's Reported Instructional Expenditures downward for Direct Instructional Expenditures to discount faculty compensation for departmental research and public service, as it has for the University of California and six of the State University's 20 comparison institutions that have research missions similar to the University

By adding appropriately adjusted expenditures for student services, academic support, institutional support, and maintenance and operation of plant, to the State University's Reported and Direct Instructional Expenditures for 1989-90, the Commission calculates that its Adjusted Instructional Mission and General Operations Expenditures for that year averaged $7,386 per student

Instructional expenditures of the State University compared to those of its faculty-salary comparison institutions

In 1989-90, the State University's Direct Instructional Expenditures were 18 7 percent higher than those at the average of the 19 of its 20 faculty-salary comparison institutions for which comprehensive expenditure data exist, while its Reported Instructional Expenditures were 9 8 percent lower This apparent disparity is entirely the result of adjustments that the Commission made in the Direct Instructional Expenditures of the six research-oriented institutions in the faculty-salary comparison group

Comparing the State University's expenditures to those of the five independent institutions in its faculty-salary comparison group, the State University had Direct Instructional Expenditures that were 22 2 percent lower and Reported Instructional Expenditures that were 45 4 percent lower However, the State University's position was reversed in terms of the 14 public institutions in its comparison group, with its Direct Instructional Expenditures 32 6 percent higher and its Reported Instructional Expenditures 3 6 percent higher

Similar relationships exist in comparing the State University's Adjusted Instructional Mission Expenditures and General Operations Expenditures with those of the 19 institutions in its faculty-salary comparison group Its Adjusted Instructional Mission Expenditures were 4 8 percent higher than the average of the overall group, while its General Operations Expenditures were 15 7 percent lower

In comparing the State University's Adjusted Instructional Mission Expenditures with those of only its five independent faculty-salary comparison institutions, its Adjusted Instructional Mission Expenditures were 34 9 percent lower than their average, and its General Operations Expenditures were fully 49 8 percent lower This relationship is mixed when comparing the State University's expenses in these categories to those of its public faculty-salary comparison institutions, with its Adjusted Instructional Mission Expenditures 19 3 percent higher than their average but its General Operations Expenditures 2 5 percent lower

Instructional expenditures of the State University compared to those of a sample of state universities with similar missions

To fulfill its mandate under the Legislature's Supplemental Language that called for this report, the Commission has compared the State University's instructional costs not only with its group of faculty-salary comparison institutions (some of which are more research-oriented than the Master Plan permits the State University to be) but also with a cross-section in 12 other major industrial states of 112 public universities with missions similar to that of the State University As Part Three of this report explains, in selecting those comparison universities for this analysis, the Commission chose only those public institutions defined by the Carnegie Commission on Higher Education as "Comprehensive 1" institutions -- as are all of the State University's 20 campuses -- although the complexity and scope of faculty activities at several State University campuses are more extensive than those at many Comprehensive 1 institutions in other states

Because none of those institutions are research universities, the Commission has not had to adjust any of their Reported Instructional Expenditures downward to account for faculty research activities unrelated to instruc-

tion In other words, for each institution in this "similar mission" comparison group, Reported Instructional Expenditures equal Direct Instructional Expenditures, and Adjusted Instructional Mission Expenditures equal General Operations Expenditures

Overall, for 1989-90 the State University's instructional expenditures were somewhat above the average of institutions in the 12 states in this sample, both in terms of Direct or Reported Instructional Expenditures, as well as for Adjusted Instructional Mission and General Operations Expenditures Specifically, in terms of Direct or Reported Instructional Expenditures, the State University ranked second -- behind North Carolina -- among all 13 states including California, with expenses 25 6 percent above the average of the dozen other states In terms of Adjusted Instructional Mission or General Operations Expenditures, it ranked sixth, and its expenses were 10 7 percent above the average of those states

University of California

In 1991-92, the State provided $8,911 in instructionally related General Fund support for each full-time-equivalent student not enrolled in the health sciences at the University of California Total instructionally related per-student revenues for the University's eight general campuses were $12,168, as follows

State General Fund	$8,911
Student Fee Revenue	2,159
Lottery Revenue	95
General University Funds (includes non-resident tuition, application fees, overhead from grants and contracts, etc)	1,003
Total Average Revenue	$12,168

University expenditures for instruction

Part Five of this report presents campus-by-campus figures as of 1989-90 for the University as well as figures for its several comparison institutions, but the following paragraphs summarize the highlights of those data

"In 1989-90, the University's Reported Instructional Expenditures averaged $8,647 per full-time-equivalent student except for those at the San Francisco campus the Commission estimates the University's Direct Instructional Expenditures as $4,695 per student at its eight general campuses On the basis of these figures, the Commission further estimates that the University's Adjusted Instructional Mission Expenditures averaged $8,489 and that General Operations Expenditures averaged $13,989 for those campuses "

For 1989-90, the University's Reported Instructional Expenditures averaged $8,647 per full-time-equivalent student except for those at the San Francisco campus (The Commission has excluded the San Francisco campus from this and other related calculations because that campus focuses specifically on graduate health sciences) Based on the University's estimate that 45 7 percent of its faculty workload can be attributed to research and public service activities unrelated to instruction, the Commission estimates the University's Direct Instructional Expenditures as $4,695 per student at its eight general campuses On the basis of these figures, the Commission further estimates that the University's Adjusted Instructional Mis-

sion Expenditures averaged $8,489 and that its General Operations Expenditures averaged $13,989 for those campuses

Instructional costs of the University and its faculty-salary comparison institutions

In 1989-90, the University's Reported and Direct Instructional Expenditures were both 14 6 percent lower than similar expenses for the average of its eight-university faculty-salary comparison group When compared to only the four independent universities in this group -- Harvard, MIT, Stanford, and Yale -- its expenses were 50 8 percent lower than their average When compared to the four public institutions in the group -- the State University of New York, Buffalo, and the Universities of Illinois (Urbana-Champaign), Michigan (Ann Arbor), and Virginia (Charlottesville) -- its expenses were 28 0 percent higher

Similar relationships exist between the University's Adjusted Instructional Mission Expenditures and General Operations Expenditures and those of its faculty-salary comparison group In these cases, its expenditures were 8 0 and 11 3 percent below the average for the overall group, respectively Similar to the Reported and Direct Instructional Expenditure figures, the University's Adjusted Instructional Mission Expenditures were 48 6 percent below the average of the four independent institutions, and its General Operations Expenditures were 50 4 percent below Conversely, compared to the four public institutions, its expenditures were 42 9 percent higher (Adjusted Instructional Mission Expenditures) and 36 5 percent higher (General Operations Expenditures)

Instructional expenditures of the University compared to a national sample of research-oriented universities

For a broader sample of institutions than the University's eight faculty-salary comparison universities, the Commission gathered instructional expenditure data from a nationwide group of 60 major public and independent universities that were classified by the Carnegie Commission on Higher Education as particularly research oriented (''Research 1'') Overall, the University had Direct and Reported Instructional Expenditures 7 6 percent above the average of this group as a whole Its Adjusted Instructional Mission Expenditures were 15 5 percent higher, and its General Operations Expenditures were 18 9 percent higher

Comparing the University separately against the public and the independent universities in this national sample reveals somewhat similar relationships to those seen with the University's faculty-salary comparison institutions The University's expenses were significantly lower than those for the average of the 22 independent universities in the sample but somewhat

above those for the 38 public universities Specifically, compared to the average of the independent institutions, its Direct and Reported Instructional Expenditures were 42 4 percent less, its Adjusted Instructional Mission Expenditures 44 3 percent less, and its General Operations Expenditures 36 7 percent less In contrast, its Direct and Reported Instructional Expenditures were 40 5 percent higher than the average of the public institutions, while its Adjusted Instructional Mission and General Operations Expenditures were 62 7 percent and 56 1 percent higher, respectively

The Commission's plans for future studies of instructional cost

The Commission has not prepared this report with the intent that its sole purpose is to answer any single policy question or serve as the basis for one particular policy decision Instead, the Commission has sought to make this study useful as a building block in facilitating the development of long-term strategies for the State to use in confronting the challenges facing California higher education Rather than seeing this report as the final word on institutional and State instructional costs in California's colleges and universities, the Commission views it as one systematic step forward in a series of continuing policy analyses in a wide variety of related areas Among the next steps in this series are these four

- One is simply to refine and extend over time the analysis of institutional expenditures for instruction in California public higher education that it has begun in this report Because of limited resources, the Commission was able to make comparisons in this study only for 1989-90 -- the most recent year for which institutional expenditure data were available In the future, it anticipates examining changes in these expenditure patterns as more recent data become available

- A second step is to integrate more closely the Commission's analyses of expenditure trends with those of revenue trends Institutional costs are not incurred in a vacuum -- they are almost entirely dependent on the availability of revenues Thus as the Commission begins to examine changes in expenditures over time, it will be essential to know how increases or decreases in available revenues affect these observed spending changes -- particularly in light of likely unrelenting revenue shortfalls for California higher education over the next several years

- Third, the Commission hopes to integrate these revenue and expenditure analyses with long-range enrollment projections By tying revenue forecasts to enrollment projections, it should be possible to estimate how the future availability of funds is likely to translate on the expenditure side of the budget on a per-student basis This integration of revenue, expenditure, and enrollment projections could be valuable at the State, system, and campus levels as a means to develop contingency plans for coping simultaneously with both increasing enrollment demand and multi-year budget shortfalls

- Fourth and finally, the Commission seeks to work cooperatively with the systems in analyzing with more detail the factors that determine the cost of instruction If the only issue requiring analysis were to project the revenue levels necessary to accommodate enrollment growth based on historic per-student expenditure levels, the information from the previously suggested areas of inquiry would be adequate But the Commission senses general agreement in the educational community as well as in government that "business as usual" will not suffice for higher education in this difficult fiscal climate

Because of the likelihood of future chronic limitations in available revenue, the search for alternatives to "business-as-usual" necessarily includes identifying how per-student expenditures might be reduced without endangering institutional quality The only way to identify options for changing per-student expenditure levels, independent of their historic relationship to available revenues, is to go beyond analyses of the interaction between revenues and expenses to the question of what these expenditures actually buy

It may be obvious, but there is only one way to fully understand why collegiate instruction costs what it does -- by defining with some precision how these funds are actually spent If State resources and student fees cannot underwrite all desirable instructional possibilities, then an analysis of the specific cost centers that comprise overall institutional costs will be central to providing policy makers with guidance both as to the limits of potential reductions, given the State's commitment to educational quality, as well as how less-essential expenditures might be most responsibly contained In Part Seven of this report, the Commission explains this thesis in greater detail and outlines its plans for those analyses

2 Background on the Study and the State's Cost of Instruction

THE RECENTLY enacted 1992-93 California State Budget contained virtually no good news for California's two public university systems State funding for the University of California and the California State University was reduced $347 million below 1991-92 funding levels This reduction was particularly significant, coming as it did on the heels of the deep cuts that were exacted in 1991-92

The Commission has pointed out elsewhere that California's public university systems do not enjoy the statutory or constitutional funding protections that are afforded to most other State programs (California Postsecondary Education Commission, 1990, 1991, 1992b) This lack of protection means that higher education is especially vulnerable to budget reductions as a result of both one-time and chronic State budget deficits This was particularly apparent in the 1992-93 State Budget, where General Fund appropriations to the University of California were reduced by 10 6 percent, or almost $225 million The California State University suffered a $123 million reduction in State General Funds, which represents a 7 5 percent decline in State support

The results of these cuts over the past two years, combined with a 60 percent increase in student fees and a 15 percent reduction in funding for State grants for low-income students, have been predictable Despite both Department of Finance and institutional projections that foresaw substantial enrollment demand, actual enrollment has stabilized at the University and has declined demonstrably at the State University Because the State University was forced by budget cuts to lay off faculty and close thousands of class sections, last year's students found that classes were often full or unavailable

"Without significant budget reform, caseload growth in all budget categories, spiraling costs in some categories, and statutory or constitutional funding guarantees for most of the total budget promise to make State budget deficits a recurring theme for at least the rest of the decade Clearly these trends cannot continue unabated throughout the '90s without disastrous consequences for higher education"

As the Commission has also warned for the past several years (1989, 1990, 1991, 1992a), the State's fiscal condition is not improving with the passage of time A persistent and increasingly structural recession continues to depress tax revenues, exacerbating a more fundamental imbalance between State expenditures and revenues Without significant budget reform, the combined forces of caseload growth in all budget categories, spiraling costs in some categories, and statutory or constitutional funding guarantees for most of the total budget promise to make State budget deficits a recurring theme for at least the rest of the decade

Origins of the study

Clearly these trends cannot continue unabated throughout the '90s without disastrous consequences for higher education Recognizing the imperative of carefully examining alternatives to business-as-usual, the Legislature passed several pieces of Supplemental Report Language as part of the 1991-92 Budget Act That language requested the Commission, the California Student Aid Commission, and the higher education systems to conduct three interrelated studies, all focusing on the financing of California higher education

1 A set of "funding gap" studies by the systems and the Student Aid Commission,

2 The Student Expense and Resource Survey by the Student Aid Commission, and

3 A review of "student fee and financial aid policies," coordinated by the Postsecondary Education Commission

(Appendix A reproduces the Supplemental Report Language calling for each of these studies This language was vetoed by the Governor, but the Commission, the Student Aid Commission, and the systems agreed to conduct the studies voluntarily because of their importance)

As part of the third study, the Supplemental Budget Language directed the Commission to conduct "an analysis of the total costs to the state of the instructional mission in the three segments of public higher education, in comparison, to the extent possible, to comparable public and private institutions in California and nationally " In this present report, the Commission seeks to be responsive to its obligation regarding that effort It describes the costs to the State of supporting the instructional missions of all three systems of public higher education -- the California Community Colleges, the California State University, and the University of California -- and it analyzes the expenses of the California State University and the University of California in carrying out their instructional missions Yet as explained on pages 12 and 13, because of lack of data the Commission has not been able in this report to compare California's State costs for instruction with those of other states, and it has been unable to compare the institutional expenditures for instruction of the California Community Colleges with those of community colleges elsewhere in the nation

Later in 1993, the Commission expects to supplement this document with reports on alternative student fee and financial aid policies for California as well as a more detailed analysis and discussion of the key factors that influence expenditures for the instructional missions of institutions, but it cannot at this time guarantee that it will be able to complete a comparative analysis of community college instructional expenditures comparable to this report on the two universities

Prior and current work on instructional costs

The Commission and the systems have done considerable work on the topic of instructional costs in the past As part of the study for its January 1990 report, *Higher Education at the Crossroads*, the Commission estimated the State's total annual per-student cost -- including fee revenues but excluding capital costs -- associated with the instructional missions of the three public systems as follows (1990, p 35)

University of California	$11,592
The California State University	$7,005
California Community Colleges	$2,791

(As noted in that report, those figures were based on full-time-equivalent student enrollment for the University and State University and on average daily attendance for the community colleges) Those figures provided the basis for the Commission's projections of the likely support costs that would be associated with the establishment of new campuses for each of the three systems

In response to requests generated in legislative hearings, the Commission updated that 1990 analysis in 1991 to show the State subsidy associated with the systems instructionally related activities, with detail presenting differences at the lower-division level of instruction The results of that 1991 analysis were as follows (1992a, p 3)

Estimates of Total Average Cost of the Instructional Mission per Full-Time-Equivalent Student by Revenue Source and by System, 1990-91

	California Community Colleges	The California State University	University of California[a]
State General Fund	$1,966	$5,937	$9,370
Student Fee Revenue	85	940	2,130
Lottery Revenue	110	196	120
Local Property Tax Revenue	844	0	0
Other Revenue Sources	0	605[c]	1,130[b]
Total Average Cost	$3,005	$7,678	$12,750

a. Excludes health science instruction as well as all expenditures for organized research, public services, and the University's teaching hospitals.

b Includes revenues from nonresident tuition, overhead from contracts and grants, application fees, and other miscellaneous revenue

c. Includes revenue from nonresident tuition, application fees, overhead from contracts and grants, independent operations, and other miscellaneous revenue

Average Amount of State General Fund Resources Spent by Each System to Educate One Full-Time-Equivalent Lower-Division Undergraduate Student, 1990-91

California Community Colleges	$1,966
The California State University	4,750
University of California	4,290

Marginal Amount Provided from the State General Fund to Each System for Each Additional Credit-Seeking Full-Time-Equivalent Lower-Division Undergraduate Student Enrolled, 1990-91

California Community Colleges	$2,200
The California State University	3,547
University of California	6,001

While those expenditure estimates represented a major step forward in understanding the cost profiles of California's public higher education systems, there was still a need to put these expenditure patterns in a context consistent with the Supplemental Budget Language That Language called on the Commission to conduct the review of student fee and financial aid policies with an advisory committee representing affected groups, institutions, and agencies, and, as a result, during 1992 Commission staff held several meetings with this committee to agree, among other items, on a method for determining State General Fund average and marginal costs of instruction In Part Three and Appendix B of this report, the Commission describes that methodology, but for the 1991-92 fiscal year the resulting calculations for the average cost per each full-time-equivalent student (excluding those in the health sciences at the University of California) can be reported as follows

California Community Colleges (both State and local taxes)	$2,989
The California State University	6,037
University of California	8,911

During 1992, the Commission's analyses of institutional revenue trends by fund source, as well as its preliminary analysis of the use of instructional resources (primarily faculty staffing patterns), led the Commission to conclude that the cost of instruction can best be understood in the context of several related issues of institutional income and expenditure rather than as an isolated state cost As a result, in this report the Commission provides expenditure data for California's two public universities and national samples of comparison institutions, trend data on revenues, and information on the major factors that determine both the general and instructional expenditure profiles of these institutions

Scope of the report

Beyond the above estimates for the State's cost of instruction for each of California's three systems of public higher education, in this report the Commission compares the *institutional* expenditures for instruction of both the California State University and the University of California with those of a wide variety of institutions nationally (Part One and Parts Four and Five below) In its analysis of those institutional expenditures, the Commission employs four different definitions of instructional expenditure be-

cause it recognizes that while institutions classify some expenditures as non-instructional, these expenditures are nevertheless sometimes inseparable from their expenses for their general instructional operation and mission This examination of all instructionally related operating expenses thus provides an important picture not simply of State appropriations for instruction but also of the actual expenditures borne by institutions to finance this portion of their mission

In addition, because 1989-90 is the latest year in which comprehensive national expenditure data were available for this analysis, and because that year preceded most of the severe budget crisis now being experienced by California, the Commission also provides in Part Six a comparison of changes in state appropriations to higher education among the 50 states from 1990-91 to 1992-93 At least in general terms, this additional analysis makes it possible to assess how institutional expenditures for instruction as of 1989-90 may have changed during those intervening years

Finally, in Part Seven the Commission identifies next steps that it plans to take in integrating these analyses of revenue and expenditure trends and then analyzing factors that affect the cost of instruction in California's public colleges and universities

Limitations of the report

Despite the scope of this report, its limitations should be noted

1 The report focuses on institutional expenditures for only the most recent year for which these data are available -- 1989-90 -- and does not examine trends over time As a result, possible anomalies in that year's data may not be apparent

2 While the Commission relies on statistics from the Integrated Postsecondary Education Data System (IPEDS) of the United States Department of Education for the comparative analyses in this report because IPEDS is the best source of these data, some colleges and universities may use somewhat different practices in reporting financial data to IPEDS The Commission has had no means of verifying the extent of these differences, but differences in the basic definitions used by individual campuses and institutions could lead to flawed conclusions from these data

3 The Commission has not designed this report to compare institutional expenditures for instruction between the University of California and the California State University but, instead, only between each of these two universities and their own comparison institutions Differences in institutional mission between the two universities require that careful distinctions be made between their expenditures The University is the State's research university with the mission of undertaking fundamental research and providing a comprehensive array of advanced graduate

and professional programs as well as undergraduate education The California State University is the State's teaching university with a comprehensive array of baccalaureate, professional, and master's degree programs These differences in mission lead to notable differences in how faculty members carry out their responsibilities and therefore to substantial differences in how their instructional expenditures are defined and calculated

4 The Commission focuses in this report on the universities' instructional mission It does not attempt to provide detailed analysis of their research and public service missions

5 Since no comprehensive national information exists on instructional expenditures by revenue source, the national comparisons presented in this report focus only on the *level* or *amount* of expenditures and do not analyze the *source of funding* for those expenditures As a result, it should be understood that the institutional expenditures discussed in this report stem from multiple revenue sources, including state and local government appropriations, tuition and fees, contracts, grants, and fees for services -- to name just the major sources The comparative part of the report therefore contrasts the "effort" being expended by California's public universities with that of similar institutions nationally

6 While capital outlay expenditures are not ordinarily included in expenditure studies of this kind, it is important to realize that capital outlay funds comprise a significant portion of the total resources necessary to deliver instructional programs

7 Finally, as noted above, while the Commission estimates the State's costs of instruction for the California Community Colleges in Part One of this report, it has been unable to undertake a comparative analysis of instructional expenditures in these colleges with similar institutions across the country Limitations on Commission resources to conduct the study was a major contributing factor, as were the facts that (1) many community colleges had not yet reported 1989-90 expenditure information to IPEDS by the time the Commission undertook this study, and (2) no agreed-on group of community colleges in other states exists for comparative analyses similar to the faculty-salary comparison groups of California's two public universities

The Chancellor's Office of the California Community Colleges, in preparing its recent "funding gap" report, developed preliminary estimates of instructional expenditures in California's two-year colleges compared to those in other public community colleges nationally In the future, the Commission hopes to analyze that information in order to compare the instructional expenditures of the California Community Colleges with those of similar colleges in other states, but it has not yet begun that analysis

3 The Commission's Approach to the Study

IN THIS SECTION of the report, the Commission describes the basic methodology it has used to derive its estimates of State and institutional instructional expenditures, as well as the major changes that it has incorporated in these analyses since its last study of instructional costs in 1991 A complete description of the methodology used in the study can be found in Appendix B

Estimating State expenditures for instruction

In order to estimate the amount of the State's financial support of the instructional mission of California's public colleges and universities on an average "per-full-time-equivalent-student" basis, the Commission consulted with representatives of the systemwide officres of the California community Colleges, the California State University, and the University of California to develop common understandings of the data and methodologies to be used

For the community colleges and the State University, the determination of average expenditures per full-time-equivalent student was simply a matter of dividing the fund-source totals for each system during 1991-92 by actual full-time-equivalent student enrollment for that year On the recommendation of the advisory committee, the Commission staff included local property tax revenue for the community colleges along with State General Fund revenue, since the State's funding formula for the community colleges makes the level of their General Fund support dependent on the amount of local propoerty taxes they receive

For the University of California, Commission staff developed a detailed methodology to remove funds for functions not related to general campus instruction from their calculations of average instructional expenditures per student Appendix B describes that methodology in detail

Estimating institutional expenditures for instruction

To obtain basic information on institutional expenditures for instruction, the Commission utilized information compiled by the National Center for Education Statistics of the United States Department of Education through its Integrated Postsecondary Education Data System (IPEDS) for 1989-90 -- the latest year for which comprehensive national expenditure information was available

The Commission used the IPEDS data because IPEDS attempts to gather comprehensive information from all American institutions of higher education in a common or uniform format, although these institutions may themselves collect the information quite differently In that sense, IPEDS presents a reconfiguration of information -- an overlay framework imposed on statewide or institutional data bases Because of this reconfiguration, the IPEDS expenditure data occasionally need adjustment in order to insure comparability among institutions both within a single state and across state boundaries

Selecting appropriate IPEDS categories for instructional expenditure estimates

For the purposes of analyzing instructional expenditures, the IPEDS information can be classified into three major types of expenditures (1) exclusively instructional, (2) mixed-use, and 3) non-instructionally related Each of these major types of expenditures is described separately below and, when appropriate, the individual categories relevant to the Commission's analysis are defined

1 *Exclusively instructional expenditures*

This type of expense includes two categories -- Instruction and Student Services

Instruction· This category includes all expenditures that support academic, remedial, and tutorial teaching for an institution's students Importantly, it includes all faculty compensation except for those non-instructional faculty exclusively involved with sponsored or organized research and funded public services, which is included in the non-instructional category discussed below However, even general instructional faculty at many institutions spend their time in multiple activities -- only some of which are related to instruction -- but institutions report compensation for these faculty exclusively in the "instruction" category As a consequence of this reporting requirement, this category covers three components of faculty compensation

- Instruction or instructionally related activities,
- Ongoing research activities of faculty that are not part of an organized research unit, and
- Public service performed by faculty that is not separately funded

Student Services This category includes funds expended for admissions, registrar activities, and activities whose primary purpose is to contribute to students' emotional and physical well-being and to their intellectual, cultural, and social development outside the context of the formal instructional program Examples are career guidance, counseling, financial aid administration, and student health services

2 *Mixed-use expenditures*

This type of expenditure contributes to fulfilling the various missions of institutions, such as instruction, research, and public service Relevant mixed-use expenditure categories in this study are

Academic Support This category includes expenditures for support services that are an integral part of the institution's primary missions -- instruction, research, or public service It includes expenditures for libraries, museums, galleries, audio/visual services, academic computing support, ancillary support, academic administration, personnel development, and course and curriculum development

Institutional Support: This category includes expenditures for the day-to-day operational support of the institution, except for physical plant operations, and includes board and systemwide levels

Plant Operation This category covers all expenditures for operations established to provide service and maintenance related to grounds and facilities used for educational and general purposes, including utilities, fire protection, property insurance, and similar items

3 *Non-instructional expenditures*

These expenditures are defined as those that are unrelated to the instructional mission of an institution, including expenditures related to auxiliary enterprises, funded public service, and sponsored or organized research In this study, these expenditures are omitted from consideration

Selecting general measures of instructional expenditure

The Commission has employed four per-student measures of instructional expenditure in this study -- Reported Instructional, Direct Instructional, Adjusted Instructional Mission, and General Operational Expenditures -- with the latter two forming the basis for the major analyses

For clarity, each of these general measures is described briefly here

1 *Reported Instructional Expenditures*

This measure refers to the total instructional expenditures reported to IPEDS by institutions It includes all compensation paid to faculty, except for that paid to faculty for organized research activities or funded public service

2 *Direct Instructional Expenditures*

This measure refers to the direct expenditures of institutions for teaching students It represents the Commission's best estimate of per-student expenditures directly related to instruction because it excludes all

non-instructional activities that institutions include as Reported Instructional Expenditures

3 *Instructional Mission Expenditures*

This measure refers to all expenditures associated with fulfilling an institution's instructional mission It includes all Direct Instructional Expenditures and all Student Services expenditures as well as instructionally related expenditures from the mixed-use categories of Academic Support, Institutional Support, and Plant Operation

4 *General Operations Expenditures*

This estimate attempts to measure the total per- student expenditures of institutions for their general educationall operations, including faculty compensation related to non-instructional activities, but it excludes from this calculation separately funded research contracts and grants and separately budgeted public service activities as well as their associated overhead

Display 1 below summarizes these four measures, while Appendix B contains a full description of the methodology used to calculate each of them

DISPLAY 1 General Measures of Institutional Expenditures for Instruction

Measure	Description
1 Reported Instructional Expenditures	Total instructional expenditures reported to IPEDS by institutions
2 Direct Instructional Expenditures	Total instructional expenditures reported to IPEDS by campuses, adjusted downward by eliminating expenditures for non-instructional activities
3 Adjusted Instructional Mission Expenditures	Summation of all instructional and instructionally related expenditures that fulfill the instructional mission of institutions
4 General Operations Expenditures	Summation of all expenditures for fulfilling the varied missions of academic institutions, excluding those for sponsored or organized research and funded public service as well as any associated overhead

Selecting institutions for comparative analysis

The Legislature directed the Commission to analyze total costs of the instructional mission in California higher education "in comparison, to the extent possible, to comparable public and private institutions in California and nationally"

The Commission compared both of California's public universities to two groups of other institutions (1) those comprising their faculty-salary comparison groups, and (2) larger groups that are similar to California's universities in terms of mission Because the faculty-salary groups of comparative institutions existed prior to the study, their determination was clear

"The Commission compared both of California's public universities to two groups of other institutions (1) those comprising their faculty-salary comparison groups, and (2) larger groups that are similar to California's universities in terms of mission To determine the second group, the Commission used a classification system developed by the Carnegie Commission on Higher Education "

To determine the second group, the Commission used a classification system developed by the Carnegie Commission on Higher Education and since maintained by the Carnegie Foundation for the Advancement of Teaching This classification is widely accepted as a benchmark for comparisons where the relevant distinctions are based on comprehensiveness of mission, program breadth, level and number of graduate degrees awarded, enrollment size, and research funding level

The relevant categories of this classification are shown in Display 2 on page 32 and can be described as follows

- *Research I Universities (R-1).* Offer a full range of baccalaureate programs, a commitment to graduate education through doctorate degree, and a high priority to research Awarded at least 50 Ph D degrees in 1984 Federal support received for research totaled at least $33 5 million annually in 1983-85 (Six University of California campuses are classified as R-1 universities)

- *Research 2 Universities (R-2)* Same as above, except federal support received for research was between $12 5 and $33 5 million annually (The University of California, Santa Barbara, is classified as an R-2 university)

- *Doctorate-Granting I Universities (D-1)·* Offer a full range of baccalaureate programs plus a commitment to graduate education through the doctorate degree Awarded at least 40 Ph D degrees in 1984 in five or more academic disciplines (The Riverside and Santa Cruz campuses of the University of California are classified as D-1 universities)

- *Doctorate-Granting II Universities (D-2)* Same as above, but awarded annually 20 or more Ph D degrees in at least one discipline or 10 or more Ph D degrees in three or more disciplines

- *Comprehensive I Colleges (C-1).* Offer baccalaureate programs and, with few exceptions, graduate education through the master's degree More than half of the baccalaureate degrees are awarded in two or more occupational or professional disciplines such as engineering or business administration Enrolled at least 2,500 full-time students in 1982-84 (All campuses of the California State University are classified as C-1 universities)

- *Comprehensive II Colleges (C-2).* More than half the baccalaureate degrees awarded in two or more occupational or professional disciplines, and also may offer graduate education through the master's degree Enrolled between 1,500 and 2,500 full-time students in 1982-84

- *Liberal Arts Colleges (LA).* Primarily undergraduate colleges that award

DISPLAY 2 The Carnegie Classification of Types of Colleges and Universities

Institutional Type	Program Breadth	Ph.D s Granted in 1984	Federal Research Funds in 1983-1985	Enrollment in 1983-85	California Public Institutions
Research 1 Universities ("R-1")	Full range of bachelor's, master's, professional, and doctoral degrees	Minimum of 50 per year	Minimum of $33 5 million	Variable	Berkeley, Davis, Irvine, Los Angeles, San Diego, and San Francisco campuses of the University of California
Research 2 Universities ("R-2")	Full range of bachelor's, master's, professional, and doctoral degrees	Minimum of 50 per year	$12 5 million to $33 5 million	Variable	Santa Barbara campus of the University of California
Doctorate-Granting I Universities ("D-1")	Full range of bachelor's, master's, professional, and doctoral degrees	Minimum of 40 per year in five or more fields	Variable	Variable	Riverside and Santa Cruz campuses of the University of California
Doctorate-Granting II Univerities ("D-2")	Full range of bachelor's, master's, professional, and doctoral degrees	Minimum of 20 per year in one field or ten in at least three fields	Variable	Variable	
Comprehensive I Colleges ("C-1")	Full range of bachelor's degrees and some master's degrees	None	Variable	At least 2,500	All campuses of the California State University
Comprensive II Colleges ("C-2")	Full range of bachelor's degrees, may offer master's	None	Variable	1,500 to 2,500	
Liberal Arts Colleges ("LA")	BA's and BS's, with over half in the arts and sciences	None	Variable	Variable	
Two-Year Colleges and Institutes ("2-Y")	Associate degrees and certificates	None	Variable	Variable	California Community Colleges

Source Adapted from Carnegie Commission for Higher Education

more than half of their baccalaureate degrees in arts and science fields Also includes colleges that award *less* than half their degrees in liberal arts fields but, with fewer than 1,500 students, are too small to be considered comprehensive

- *Two-Year Colleges and Institutes (2-Y):* Offer certificate or degree pro-

grams through the Associate of Arts level and, with few exceptions, offer no baccalaureate degrees

"For comparison with the California State University, the Commission has used all public 'Comprehensive 1' institutions from 12 other major industrial states These 112 institutions have missions similar to that of the State University -- undergraduate education and graduate education through the master's degree -- although the complexity and scope of faculty activities at several State University campuses are more extensive than those at many 'Comprehensive 1'institutions in other states "

For comparison with the California State University, the Commission has used all public "Comprehensive 1" institutions from 12 other major industrial states -- Florida, Illinois, Michigan, Minnesota, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Texas, Virginia, and Washington These 112 institutions have missions similar to that of the State University -- undergraduate education and graduate education through the master's degree -- although the complexity and scope of faculty activities at several State University campuses are more extensive than those at many "Comprehensive 1" institutions in other states

For comparison with the University of California, the Commission has used all of America's public and independent "Research 1" institutions, as defined by the Carnegie classification, for which comprehensive expenditure information was available These 60 institutions have similar missions to the University, including instruction, research, and public service

Comparability of institutions based on the Carnegie classification

In selecting comparison institutions for this analysis, the Commission has not intended to identify only those universities that resemble campuses of California's public universities in terms of size, faculty compensation, program and student mix Taken to the extreme, such an approach would not be informative, since including only those institutions that resemble their California reference group in terms of size, faculty compensation, program mix and student/faculty ratios would predictably generate expenditure profiles that are nearly identical to the California institutions with which they were compared

Rather, the Commission's intention has been to identify comparison institutions that are similar to their California reference groups in the sense that they represent other states' efforts to accomplish the same basic missions as the University of California and the California State University, regardless of the specific institutional configurations through which these goals are pursued This approach results in the selection of some comparison institutions that do not resemble their California counterparts other than in terms of mission, but that are nevertheless charged with accomplishing the same basic goals as their California counterparts

"the following analysis does not represent a comparison between California's universities and only those institutions that pursue similar missions in similar ways Instead, the Commission's intent has been to generate comparisons between universities that pursue similar goals through a wide variety of institutional configurations "

As a result, the following analysis does not represent a comparison between California's universities and only those institutions that pursue similar missions in similar ways That comparison would not likely have been possible in any event, given the size, scope, and diversity of California's two public universities Instead, the Commission's intent has been to generate comparisons between universities that pursue similar goals through a wide variety of institutional configurations

In this report, the Commission does not comment on the effectiveness with which California's public universities accomplish their missions compared to their comparison institutions That effort must be left to future analyses of these issues But this study does take the first step toward initiating meaningful interstate comparisons by examining the relative expenditure differences between California's public universities and those institutions that pursue similar missions, regardless of whether or not they happen to be configured similarly to their California counterparts

As an illustration, the 20 institutions that comprise the faculty-salary comparison group for the California State University are widely diverse and can be as easily described by their dissimilarities as by the characteristics they have in common with each other or with the State University For example, although 14 (70 percent) of the 20 are publicly funded, the Carnegie Commission taxonomy classifies only two of them (10 percent) as "Comprehensive 1" institutions like the State University While the State University lacks a law school, ten (50 percent) of the comparison group have law schools, and seven (35 percent) award postgraduate degrees in medicine, dentistry, pharmacy, or veterinary medicine (Display 3)

Given these dissimilarities among the faculty-salary comparison-group institutions, the Commission has employed an additional comparison group comprised of all the public" Comprehensive 1" institutions in 12 other major industrial states These institutions share a similar mission with the State University -- undergraduate education through the masters level -- and, as a result, they generate a more informative sampling than the faculty-salary comparison group when examining comparative instructional costs between mission-similar institutions

For the University of California, the Commission has used the eight institutions that comprise its faculty-salary comparison group -- seven of which are "Research 1" institutions, while the State University of New York at Buffao is a "Research 2" institution In order to ground this small faculty-salary comparison group of institutions in a national context, as well as provide a broader sample for comparisons with the University, the Commission has employed a second group of 60 public and independent comparison institutions, consisting of all but one "Research 1" institutions in the nation (It was unable to include Georgia Institute of Technology because of missing IPEDS data on the Institute for 1989-90)

DISPLAY 3 *Law and Health Profession Degrees Awarded by Faculty Salary Comparison Institutions of the California State University*

Institution	Law	Dentistry	Medicine	Pharmacy	Veterinary Medicine
Arizona State University	◆				
Bucknell University, Pennsylvania					
Cleveland State University, Ohio	◆				
George Mason University, Virginia	◆				
Georgia State University	◆				
Illinois State University					
Loyola University of Chicago	◆	◆	◆		
North Carolina State University					◆
Reed College, Oregon					
Rutgers University College at Newark	◆				
State University of New York, Albany					
Tufts University, Massachusetts		◆	◆		◆
University of Connecticut	◆	◆	◆	◆	
University of Colorado at Denver					
University of Maryland, Baltimore County	◆				
University of Nevada, Reno			◆		
University of Southern California	◆	◆	◆	◆	
University of Texas at Arlington					
University of Wisconsin - Milwaukee					
Wayne State University, Michigan	◆		◆	◆	◆

Source American Council on Education, 1987

Source American Council on Education, 1987

4 Instructional Expenditures at the California State University

IN 1989-90, the Reported and Direct Instructional Expenditures of the California State University, as defined in Part Three of this report, averaged $4,538 per full-time-equivalent student across its 19 campuses Using that amount as a basis for calculations and adding appropriately adjusted expenditures for student services, academic support, institutional support, and maintenance and operation of the physical plant, the State University's Adjusted Instructional Mission and General Operations Expenditures for that year were $7,386 per student Display 4 below provides campus-by-campus detail for these averages

DISPLAY 4 Instructional Expenditures of the California State University per Full-Time-Equivalent Student in 1989-90, by Campus

Campus	Full-Time-Equivalent Enrollment	Reported and Direct Instructional Expenditures	Adjusted Instructional Mission and General Operations Expenditures
Bakersfield	3,877	$5,024	$9,510
Chico	14,324	$4,595	$7,440
Dominguez Hills	5,768	$5,338	$9,365
Fresno	15,682	$4,893	$7,790
Fullerton	17,519	$4,273	$6,984
Hayward	10,033	$4,558	$7,704
Humboldt	6,792	$5,054	$9,344
Long Beach	23,012	$4,405	$7,010
Los Angeles	15,678	$4,618	$7,733
Northridge	21,334	$4,283	$6,760
Pomona (Polytechnic)	16,379	$4,420	$6,988
Sacramento	19,000	$4,470	$7,008
San Bernardino	7,255	$4,624	$8,083
San Diego	26,446	$4,468	$7,135
San Francisco	20,637	$4,221	$6,645
San Jose	21,387	$4,513	$7,276
San Luis Obispo (Polytechnic)	16,681	$4,755	$7,326
Sonoma	5,386	$4,843	$8,708
Stanislaus	3,993	$4,905	$9,152
The California State University	271,183	$4,538	$7,386

Notes Adjusted Instructional Mission and General Operations Expenditures for the State University equal Reported and Direct Instructional Expenditures and student services expenditures, plus indirect costs equal to total academic and institutional administration and plant maintenance and operation, less any overhead for separately funded research or public service Please see Appendix B for a complete explanation of the definitions and calculations of these expenditure categories

Source Integrated Postsecondary Education Data System (IPEDS) enrollment and finance data bases, 1989-90, and California Postsecondary Education Commission staff analysis.

These figures illustrate the "economies of scale" that operate in higher education just as they do in other institutions and organizations, with the largest campuses of the State University having the lowest per-student expenditures and the smallest having the highest

Some readers may mistakenly interpret these figures as the amount that the State appropriates for instruction at the State University, but this is not so None of these figures represents the amount of per-student support provided by California for the State University to carry out its instructional activities Rather, they represent funds devoted by the State University itself to carry out its responsibilities as defined by the Master Plan

Moreover, readers comparing these figures with those for the University of California in Part Five might reach the misleading conclusion that accommodating student enrollment at the State University is actually more expensive than at the University or similar research-oriented institutions This comparison would be mistaken because the methodology that the Commission has employed for estimating Direct Instructional Expenditures and Adjusted Instructional Mission Expenditures results in research universities having significant funds reallocated from instructional categories to research and public service -- and these adjustments serve to close the instructional expenditure gap between research universities and comprehensive institutions such as the State University

While these figures accurately reflect the actual resources devoted by each type of institution to carry out its instructional activities, they serve to obscure the fact that for research universities these non-instructional expenditures are an unavoidable expense in carrying out their instructional mission States must also provide significant additional funds to finance the added research and public service missions undertaken by research universities The magnitude of this additional state support required in California to finance the broader missions of the University of California than the State University can be seen in the estimates of the State's average and marginal costs of instruction listed on pages 5 and 6 above

Comparison of the State University's instructional expenditures with those of its faculty-salary comparison institutions

One of the two comparison groups for the State University that the Commission has employed in this study is the institutions used each year for faculty salary comparisons Display 5 on the opposite page shows the results of this analysis for the 19 of the 20 comparison institutions on which data are available As that display demonstrates, the State University has somewhat higher instructional expenditures than the faculty-salary comparison group as a whole, although significant variation exists between the public and independent comparison institutions

This comparison shows that in 1989-90, the State University's Direct Instructional Expenditures were 18 7 percent higher than those at the aver-

DISPLAY 5 Instructional Expenditures per Full-Time-Equivalent Student of the Faculty-Salary Comparison Institutions for the California State University, 1989-90

Institution	Sector	Carnegie Classification	Full-Time-Equivalent Enrollment	Direct Instructional Expenditures	Reported Instructional Expenditures	Adjusted Instructional Mission Expenditures	General Operations Expenditures
Arizona State University	Public	Research 1	33,055	$2,069	$3,941	$4,065	$6,995
Bucknell University, Pennsylvania	Independent	Liberal Arts 1	3,349	$5,438	$5,438	$13,129	$13,129
Cleveland State University, Ohio	Public	Doctoral 2	12,851	$3,756	$3,756	$47,450	$7,450
George Mason University, Virginia	Public	Comprehensive 1	13,759	$4,063	$4,063	$7,081	$7,081
Georgia State University	Public	Doctoral 1	14,358	$4,565	$4,565	$8,276	$8,276
Illinois State University	Public	Doctoral 2	20,508	$2,437	$2,437	$5,568	$5,568
Loyola University of Chicago	Independent	Doctoral 1	10,171	$5,536	$5,536	$11,679	$11,679
North Carolina State University	Public	Research 1	20,560	$3,269	$3,269	$4,460	$4,460
Reed College, Oregon	Independent	Liberal Arts 1	1,286	$5,975	$5,975	$13,927	$13,927
State University of New York, Albany	Public	Research 2	13,789	$4,342	$5,790	$6,852	$8,917
Tufts University, Massachusetts	Independent	Doctoral 1	7,404	$7,846	$7,846	$18,601	$18,601
University of Colorado at Denver	Public	Comprehensive 1	6,756	$4,067	$4,067	$7,496	$7,496
University of Connecticut	Public	Research 1	20,372	$2,450	$4,667	$5,355	$8,868
University of Maryland, Baltimore County	Public	Doctoral 2	7,609	$4,463	$4,463	$7,757	$7,757
University of Nevada, Reno	Public	Doctoral 2	8,014	$5,559	$5,559	$9,706	$9,706
University of Southern California	Independent	Research 1	23,110	$5,364	$10,217	$8,458	$15,065
University of Texas at Arlington	Public	Independent	16,979	$2,786	$2,786	$4,779	$4,779
University of Wisconsin, Milwaukee	Public	Comprehensive 1	17,368	$3,924	$3,924	$7,541	$7,541
Wayne State University, Michigan	Public	Research 2	20,887	$4,300	$5,733	$7,113	$9,156
Public Total/Average			226,865	$3,422	$4,382	$6,189	$7,576
Independent Total/Average			45,323	$5,831	$8,306	$11,339	$14,707
Overall Total/Average			272,188	$3,823	$5,035	$7,046	$8,763
The California State University	Public	Comprehensive 1	271,183	$4,538	$4,538	$7,386	$7,386

Notes Direct Instructional Expenditures reflect Reported Instructional Expenditures less faculty compensation related to research and public service

Adjusted Instructional Mission Expenditures reflect Direct Instructional Expenditures plus student services, adjusted academic support, institutional support, and maintenance and operation of plant.

General Operations Expenditures include Reported Instructional Expenditures plus academic support, institutional support, student services, and maintenance and operation of plant

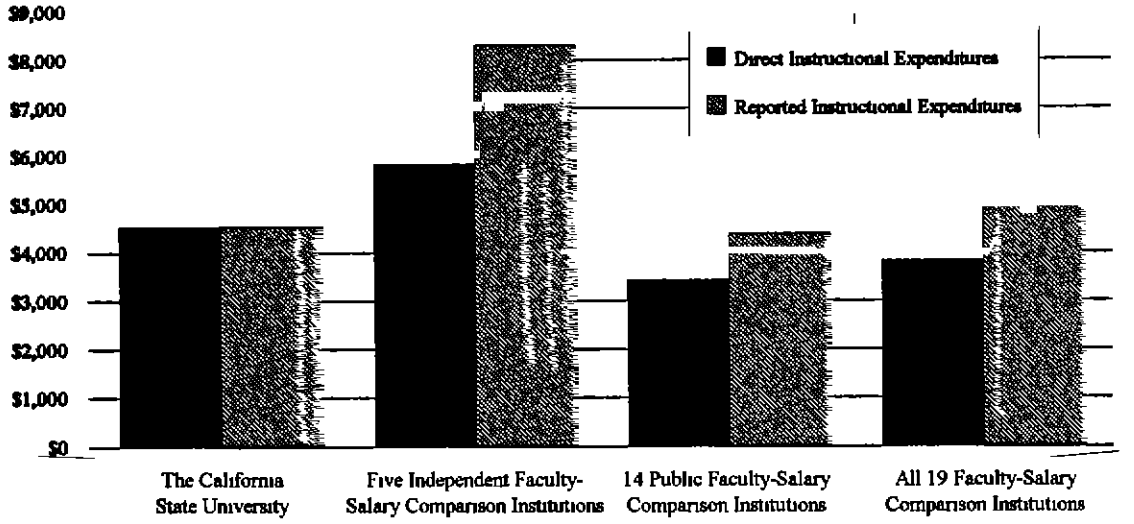
Adjustments in reported academic and institutional support and maintenance of plant expenditures were made to account for costs in these categories related to research and public service

Source All data obtained directly from institutions listed

age of the 19 of its 20 faculty-salary comparison institutions for which comprehensive expenditure data exist, while its Reported Instructional Expenditures were 9 8 percent lower This apparent disparity is entirely the result of adjustments that the Commission made in the Direct Instructional Expenditures of the six research-oriented institutions in the faculty-salary comparison group

Comparing the State University's expenditures to those of the five independent institutions in its faculty-salary comparison group, the State University had Direct Instructional Expenditures that were 22 2 percent lower and Reported Instructional Expenditures that were 45 4 percent lower However, the State University's position was reversed in terms of the 14 public institutions in its comparison group, with its Direct Instructional Expenditures 32 6 percent higher and its Reported Instructional Expenditures 3 6 percent higher Display 6 shows the relative relation between the State University and these public and independent cohorts

DISPLAY 6 Direct and Reported Instructional Expenditures per Full-Time-Equivalent Student of the California State University and its Independent and Public Faculty-Salary Comparison Institutions, 1989-90



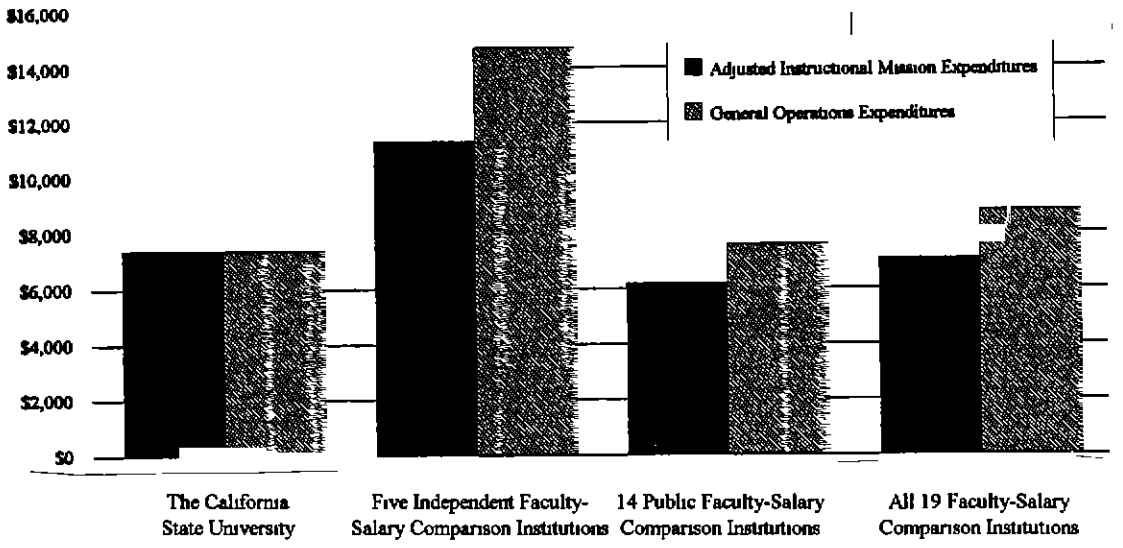
Note Direct Instructional Expenditures reflect Reported Instructional Expenditures less faculty compensation related to research and public service

Source Display 5

Similar relationships exist in comparing the State University's Adjusted Instructional Mission Expenditures and General Operations Expenditures with those of the 19 institutions in its faculty-salary comparison group Its Adjusted Instructional Mission Expenditures were 4 8 percent higher than the average of the overall group, while its General Operations Expenditures were 15 7 percent lower

In comparing the State University's Adjusted Instructional Mission Expenditures with those of only its five independent faculty-salary comparison institutions, its Adjusted Instructional Mission Expenditures were 34 9 percent lower than their average, and its General Operations Expenditures were fully 49 8 percent lower This relationship is mixed when comparing the State University's expenses in these categories to those of its public faculty-salary comparison institutions, with its Adjusted Instructional Mission Expenditures 19 3 percent higher than their average but its General Operations Expenditures 2 5 percent lower Display 7 shows the relation among the various comparison cohorts for these expenditures

DISPLAY 7 Adjusted Instructional Mission and General Operations Expenditures per Full-Time-Equivalent Student of the California State University and its Independent and Public Faculty-Salary Comparison Institutions, 1989-90



Note Adjusted Instructional Mission Expenditures reflect General Operations Expenditures less faculty compensation and indirect expenses related to research and public service

Source Display 5

Comparison of the State University's instructional expenditures with those of mission-similar institutions

To fulfill its mandate under the Legislature's Supplemental Language that called for this report, the Commission has compared the State University's instructional costs not only with its group of faculty-salary comparison institutions (some of which are more research-oriented than the Master Plan permits the State University to be) but also with a cross-section in 12 other major industrial states of 112 public universities with missions similar to that of the State University As Part Three of this report explained, in selecting those comparison universities for this analysis, the Commission chose only those public institutions defined by the Carnegie Commission on Higher Education as "Comprehensive 1" institutions -- as are all of the State University's 20 campuses -- although the complexity and scope of

faculty activities at several State University campuses are more extensive than those at most "Comprehensive I" institutions in other states

Because none of those institutions are research universities, the Commission has not had to adjust any of their Reported Instructional Expenditures downward to account for faculty research activities unrelated to instruction In other words, for each institution in this "similar mission" comparison group, Reported Instructional Expenditures equal Direct Instructional Expenditures, and Adjusted Instructional Mission Expenditures equal General Operations Expenditures Display 8 on the next several pages shows these expenditures of each of these institutions, organized by

DISPLAY 8 Instructional Expenditures per Full-Time-Equivalent Student of 112 Public Universities with Missions Similar to That of the California State University and Located in 12 Major Industrial States, 1989-90 (Listed Alphabetically by State)

Institution	Full-Time Equivalent Enrollment	Reported and Direct Instructional Expenditures	Adjusted Instructional Mission and General Operations Expenditures
Florida A&M University	6,605	$4,288	$8,989
Florida International University	12,527	$4,252	$7,936
University of Central Florida	13,976	$2,910	$6,546
University of Northern Florida	4,561	$2,762	$7,324
University of Western Florida	5,185	$4,588	$9,103
Chicago State University, Illinois	3,723	$4,906	$9,967
Eastern Illinois University	9,966	$2,682	$5,712
Governors State University, Illinois	2,298	$5,671	$11,464
Northeast Illinois University	6,112	$3,490	$7,764
Sangamon State University, Illinois	2,088	$4,511	$9,298
Southern Illinois University, Edwardsville	8,237	$4,295	$8,580
Western Illinois University	11,083	$3,065	$7,034
Central Michigan University	16,396	$3,437	$6,070
Eastern Michigan University	16,471	$3,112	$6,134
Ferris State University, Michigan	10,829	$3,496	$6,165
Grand Valley State University, Michigan	8,011	$2,773	$5,309
Lake Superior State University, Michigan	2,727	$2,681	$5,574
Michigan Technical University	5,952	$4,435	$8,626
Northern Michigan University	6,788	$3,633	$7,230
Oakland University, Michigan	8,673	$3,533	$6,651
Saginaw Valley State University, Michigan	3,967	$2,765	$5,750
University of Michigan, Dearborn	4,902	$3,388	$6,453
University of Michigan, Flint	4,240	$3,051	$5,721
Bemedji State University, Minnesota	4,533	$2,791	$5,620
Mankato State University, Minnesota	13,313	$2,744	$4,997
Moorhead State University, Minnesota	7,851	$2,649	$4,535
Saint Cloud State University, Minnesota	13,974	$2,791	$4,483
University of Minnesota, Duluth	7,439	$3,462	$6,829
Winona State University, Minnesota	6,570	$2,984	$4,963
Glassboro State College, New Jersey	6,647	$3,850	$8,077
Jersey City State College, New Jersey	4,556	$5,878	$10,477
Montclair State College, New Jersey	9,144	$3,475	$6,899
Ramapo College, New Jersey	3,038	$2,516	$7,471

(continued)

DISPLAY 8, continued

Institution	Full-Time Equivalent Enrollment	Reported and Direct Instructional Expenditures	Adjusted Instructional Mission and General Operations Expenditures
Stockton State College, New Jersey	4,522	$2,990	$6,648
Trenton State College, New Jersey	5,765	$4,640	$9,234
William Patterson College, New Jersey	6,805	$3,371	$7,711
CUNY Bernard Baruch College	11,789	$3,806	$6,858
CUNY Brooklyn College	10,843	$5,408	$8,986
CUNY City College	9,492	$7,901	$12,052
CUNY College of Staten Island	7,301	$4,462	$7,171
CUNY Hunter College	12,584	$5,445	$8,853
CUNY Lehman College	6,021	$5,286	$8,812
CUNY Medgar Evers College	1,654	$5,162	$11,435
CUNY Queens College	11,890	$5,077	$8,507
CUNY York College	3,515	$4,035	$8,719
SUNY College, Brockport	6,994	$3,797	$7,027
SUNY College, Cortland	6,108	$3,051	$5,971
SUNY College, Fredonia	4,435	$3,655	$7,081
SUNY College, Geneseo	5,068	$2,948	$6,573
SUNY College, New Paltz	6,047	$3,657	$6,752
SUNY College, Old Westbury	3,163	$3,095	$7,518
SUNY College, Oneonta	5,632	$3,292	$6,232
SUNY College, Oswego	7,434	$3,038	$5,960
SUNY College, Plattsburg	5,656	$3,405	$6,360
SUNY College, Potsdam	4,030	$3,491	$7,595
SUNY, Buffalo	9,737	$4,121	$7,082
SUNY, Empire State College	3,172	$4,879	$7,363
SUNY, Institute of Technology, Utica-Rome	1,679	$3,580	$9,889
Appalachian State University, North Carolina	10,626	$3,653	$6,545
East Carolina University, North Carolina	14,170	$7,155	$9,814
Fayetteville State University, North Carolina	2,418	$4,257	$8,384
North Carolina A&T University	5,599	$4,042	$8,145
North Carolina Central University	4,328	$3,757	$7,820
University of North Carolina, Ashville	2,422	$3,586	$7,081
University of North Carolina, Charlotte	10,546	$4,202	$6,897
University of North Carolina, Wilmington	6,495	$3,320	$5,844
Western Carolina University, North Carolina	5,308	$3,837	$7,436
Wright State University, Ohio	12,280	$4,718	$8,511
Youngstown State University, Ohio	11,367	$3,537	$5,995
Bloomsburg, University of Pennsylvania	6,265	$3,596	$6,907
California, University of Pennsylvania	5,681	$3,565	$6,613
Clarion, University of Pennsylvania	5,737	$3,447	$6,780
East Stroudsburg, University of Pennsylvania	4,522	$3,739	$7,588
Edinboro, University of Pennsylvania	6,606	$3,585	$6,507
Kutztown, University of Pennsylvania	6,541	$3,323	$6,335
Lock Haven, University of Pennsylvania	3,061	$3,702	$7,202
Mansfield, University of Pennsylvania	2,861	$3,696	$7,543
Millersville, University of Pennsylvania	6,175	$3,747	$7,473
Pennsylvania State University, Harrisburg	1,926	$5,815	$11,258
Shippensburg, University of Pennsylvania	5,701	$3,606	$6,547
Slippery Rock, University of Pennsylvania	6,639	$3,682	$6,465
University of Pittsburgh, Johnstown, Pennsylvania	2,820	$2,590	$4,796
West Chester, University of Pennsylvania	9,224	$3,483	$6,742

(continued)

DISPLAY 8, continued

Institution	Full-Time Equivalent Enrollment	Reported and Direct Instructional Expenditures	Adjusted Instructional Mission and General Operations Expenditures
Angelo State University, Texas	5,171	$2,382	$3,777
Corpus Christi State University, Texas	2,091	$4,664	$8,151
Lamar University, Texas	8,851	$3,035	$4,968
Midwestern State University, Texas	3,614	$2,637	$4,711
Pan American University, Texas	8,375	$1,974	$3,214
Prairie View A&M University, Texas	5,174	$2,431	$6,809
Sam Houston State University, Texas	10,097	$2,227	$3,908
Stephen F Austin State University, Texas	11,277	$2,379	$3,828
Southwest Texas State University	17,282	$2,353	$3,879
Tarleton State University, Texas	5,113	$2,232	$4,284
Texas A&I University	3,150	$5,081	$8,437
Texas Southern University	7,449	$3,020	$5,769
University of Houston, Texas	4,412	$1,726	$4,213
University of Houston, Clear Lake, Texas	4,019	$3,350	$6,228
University of Texas, El Paso	11,686	$2,508	$4,386
University of Texas, San Antonio	9,938	$2,405	$4,369
University of Texas, Tyler	2,450	$3,367	$5,787
West Texas State University	4,475	$2,514	$5,269
Christopher Newport College, Virginia	3,449	$2,372	$4,554
George Mason University, Virginia	13,759	$4,063	$7,081
James Madison University, Virginia	10,139	$3,277	$5,507
Longwood College, Virginia	2,936	$2,928	$6,022
Mary Washington College, Virginia	3,019	$3,287	$6,524
Norfolk State University, Virginia	7,041	$3,085	$5,743
Radford University, Virginia	8,653	$2,899	$4,987
Virginia State University	3,457	$3,300	$8,060
Central Washington State University	6,620	$3,480	$6,314
Eastern Washington State University	7,062	$3,745	$7,293
Western Washington State University	8,902	$4,108	$6,671

Notes Adjusted Instructional Mission and General Operations Expenditures for the State University equal Reported and Direct Instructional Expenditures and student services expenditures, plus indirect costs equal to total academic and institutional administration and plant maintenance and operation, less any overhead for separately funded research or public service Please see Appendix B for a complete explanation of the definitions and calculations of these expenditure categories

Source Integrated Postsecondary Education Data System (IPEDS) enrollment and finance data bases, 1989-90, and California Postsecondary Education Commission staff analysis.

state, while Display 9 on page 45 shows the average of expenditures for each of the 12 states with those for the California State University

Overall, for 1989-90 the State University's instructional expenditures were somewhat above the average of institutions in the 12 states in this sample, both in terms of Direct or Reported Instructional Expenditures, as well as for Adjusted Instructional Mission and General Operations Expenditures Specifically, in terms of Direct or Reported Instructional Expenditures, the State University ranked second -- behind North Carolina -- among all 13 states including California (Display 10), with expenses 25 6 percent above the average of the dozen other states In terms of Adjusted Instructional Mission or General Operations Expenditures, it ranked sixth (Display 11), and its expenses were 10 7 percent above the average of those states

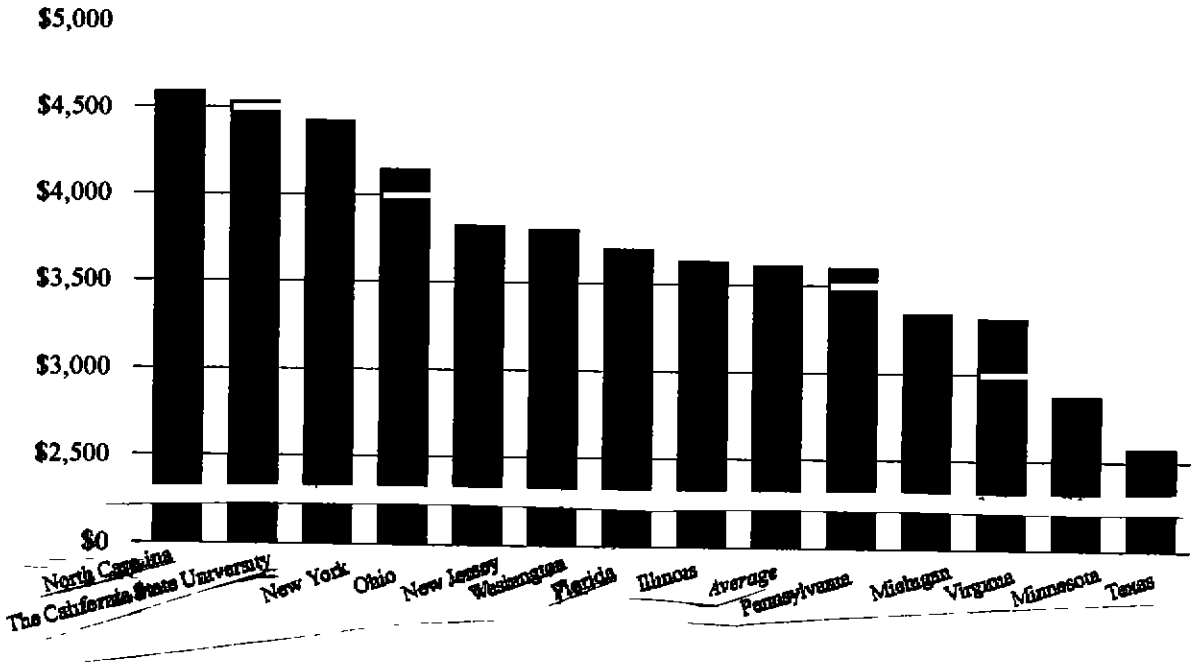
DISPLAY 9 *Average Instructional Expenditures per Full-Time-Equivalent Student of Public Universities with Missions Similar to That of the California State University and Located in 12 Major Industrial States, 1989-90*

State	Full-Time-Equivalent Enrollment	Reported and Direct Instructional Expenditures	Adjusted Instructional Mission and General Operations Expenditures
Florida	42,854	$3,702	$7,721
Illinois	43,507	$3,634	$7,720
Michigan	88,955	$3,341	$6,316
Minnesota	53,680	$2,875	$5,098
New Jersey	40,476	$3,829	$7,979
New York	144,245	$4,429	$7,834
North Carolina	61,912	$4,592	$7,683
Ohio	23,647	$4,150	$7,302
Pennsylvania	73,759	$3,600	$6,859
Texas	124,622	$2,578	$4,629
Virginia	52,454	$3,318	$6,059
Washington	22,584	$3,810	$6,761
12-State Total/Average	772,694	$3,613	$6,674
The California State University	271,183	$4,538	$7,386

Notes Adjusted Instructional Mission and General Operations Expenditures for the State University equal Reported and Direct Instructional Expenditures and student services expenditures, plus indirect costs equal to total academic and institutional administration and plant maintenance and operation, less any overhead for separately funded research or public service Please see Appendix B for a complete explanation of the definitions and calculations of these expenditure categories

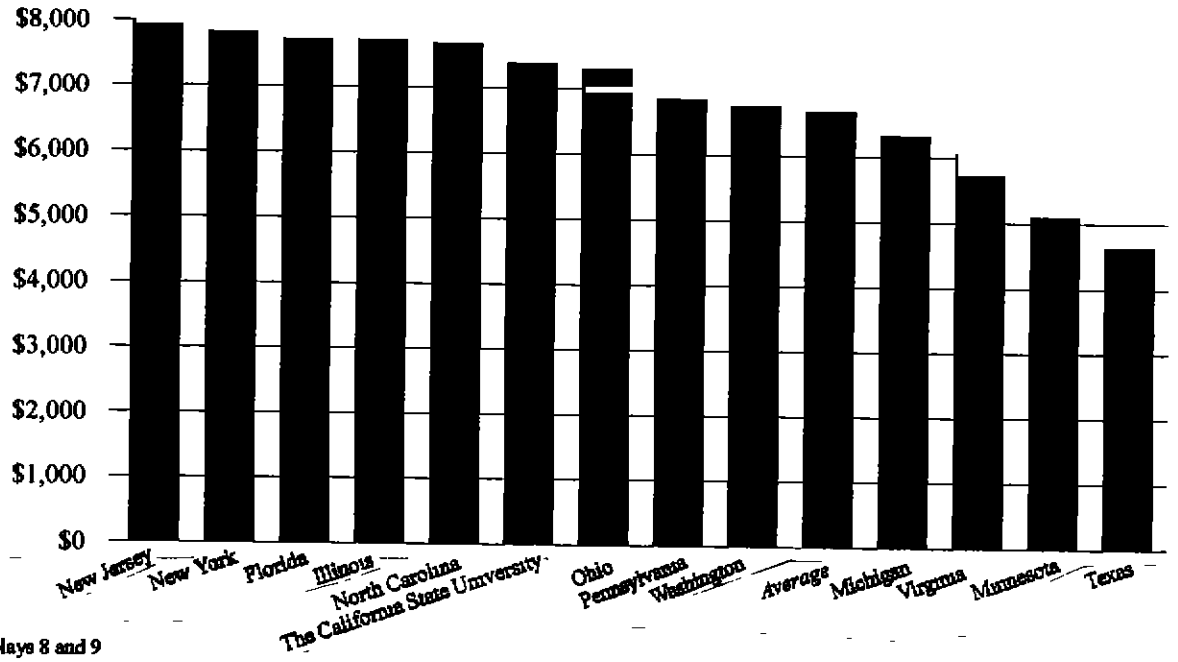
Source Display 8

DISPLAY 10 *Direct and Reported Instructional Expenditures per Full-Time-Equivalent Student of the California State University Compared to the Averages of Mission-Similar Public Universities in 12 Other Major Industrial States, 1989-90*



Source: Displays 8 and 9

DISPLAY 11 Adjusted Instructional Mission and General Operations Expenditures per Full-Time-Equivalent Student of the California State University Compared to the Averages of Mission-Similar Public Universities in 12 Other Major Industrial States, 1989-90



Source Displays 8 and 9

5 Instructional Expenditures at the University of California

In 1989-90, the University's Reported Instructional Expenditures averaged $8,647 per full-time-equivalent student except for those at the San Francisco campus (The Commission has excluded that campus from this and other similar calculations in this report because of its focus on high-cost health science education at the graduate level) Based on the University's estimate that 45 7 percent of its faculty workload can be attributed to research and public service activities, the Commission estimates the University's Direct Instructional Expenditures as $4,695 per student at its eight general campuses On the basis of these figures, the Commission further estimates that the University's Adjusted Instructional Mission Expenditures at those campuses averaged $8,489 and that its General Operations Expenditures averaged $13,989

These expenditure figures are generally lower than previous Commission estimates because they attempt to account for expenses previously classified as instructional in nature but that in fact are related to faculty compensation for research and public service activities as well as to administrative and maintenance overhead related to these non-instructional activities

Display 12 on page 48 provides detail of these expense categories on a campus-by-campus basis, including for illustrative purposes the San Francisco campus As can be seen, that campus had Direct Instructional Expenditures of $20,013 per full-time-equivalent student and Adjusted Instructional Mission Expenditures of $32,901 -- due to its exclusive health-science focus and its emphasis on post-baccalareate programs

Comparison of the University's instructional expenditures with those of its faculty-salary comparison institutions

Since a large portion of the University's expenditures are determined by the cost of compensating its faculty, one obvious external comparison group for instructional expenditures is the sample of institutions annually used to benchmark its faculty salaries and its student/faculty ratios Since the State seeks to set the University's faculty salaries near the average of these comparison institutions, and since faculty salaries combined with student/faculty ratios are the major determinant in establishing Direct Instructional Expenditures and are a major factor in determining overall institutional expenses, it would be expected that the University's expenditures hover near the average of its faculty-salary comparison group Display 13 on page 48

DISPLAY 12 *Instructional Expenditures of the University of California per Full-Time-Equivalent Student in 1989-90, by Campus*

Campus	Carnegie Classification	Full-Time-Equivalent Enrollment: Undergraduate	Graduate	Health Science	Direct Instructional Expenditures	Reported Instructional Expenditures	Adjusted Instructional Mission Expenditures	General Operations Expenditures
Berkeley	Research 1	20,251	8,137	316	$4,112	$7,572	$8,020	$12,877
Davis	Research 1	16,198	3,380	1,854	$4,983	$9,177	$8,632	$14,385
Irvine	Research 1	12,302	1,919	1,094	$5,222	$9,616	$9,019	$14,824
Los Angeles	Research 1	20,718	8,855	2,754	$6,334	$11,666	$10,697	$18,336
Riverside	Doctoral 1	6,347	1,311	53	$3,577	$6,587	$7,111	$11,456
San Diego	Research 1	13,446	2,010	1,127	$5,135	$9,457	$8,755	$14,534
San Francisco	Research 1	0	639	3,000	$20,013	$36,857	$32,901	$58,802
Santa Barbara	Research 2	15,683	2,109	0	$2,839	$5,228	$6,062	$9,396
Santa Cruz	Doctoral 1	8,569	791	0	$2,976	$5,480	$6,379	$9,959
University of California		113,514	28,512	7,198	$4,6956	$8,6479	$8,489	$13,989

Note Please see Display 13 for notes and source The San Francisco campus is not included in the enrollment totals or per-student expenditure averages

DISPLAY 13 *Instructional Expenditures per Full-Time-Equivalent Student of the Faculty-Salary Comparison Institutions for the University of California, 1989-90*

Institution	Carnegie Classification	Full-Time-Equivalent Enrollment: Under-graduate	Graduate	Health Science	Direct Instructional Expenditures	Reported Instructional Expenditures	Adjusted Instructional Mission Expenditures	General Operations Expenditures
Public Institutions								
SUNY at Buffalo	Research 2	16,044	4,008	2,859	$3,574	$6,582	$6,026	$10,527
University of Illinois	Research 1	26,225	9,096	304	$2,621	$4,828	$4,294	$7, 157
University of Michigan	Research 1	22,558	10,346	1,257	$4,506	$8,298	$7,076	$12,069
Univeristy of Virginia	Research 1	11,211	5,548	547	$4,296	$7,911	$6,987	$12,035
Independent Institutions								
MIT	Research 1	4,264	4,970	0	$8,301	$15,287	$14,314	$24,544
Stanford University	Research 1	6,531	5,791	596	$8,765	$16,141	$14,923	$25,417
Harvard University	Research 1	6,848	9,626	665	$8,478	$15,613	$16,026	$27,157
Yale University	Research 1	5,252	4,730	421	$13,350	$24,586	$21,195	$36,587
All Faculty-Salary Comparison Institutions		98,933	54,115	6,649	$5,495	$10,120	$9,229	$15,766
Independent Comparison Institutions		22,895	25,117	1,682	$9,539	$17,568	$16,503	$28,193
Public Comparison Institutions		76,038	28,998	4,967	$3,668	$6,756	$5,942	$10,152
University of California		113,514	28,512	7,198	$4,695	$8,647	$8,489	$13,989

Notes Direct Instructional Expenditures reflect Reported Instructional Expenditures less faculty compensation related to research and public service

Adjusted Instructional Mission Expenditures reflect Direct Instructional Expenditures plus student services, adjusted academic support, institutional support, and maintenance and operation of plant.

General Operations Expenditures include Reported Instructional Expenditures plus academic support, institutional support, student services, and maintenance and operation of plant

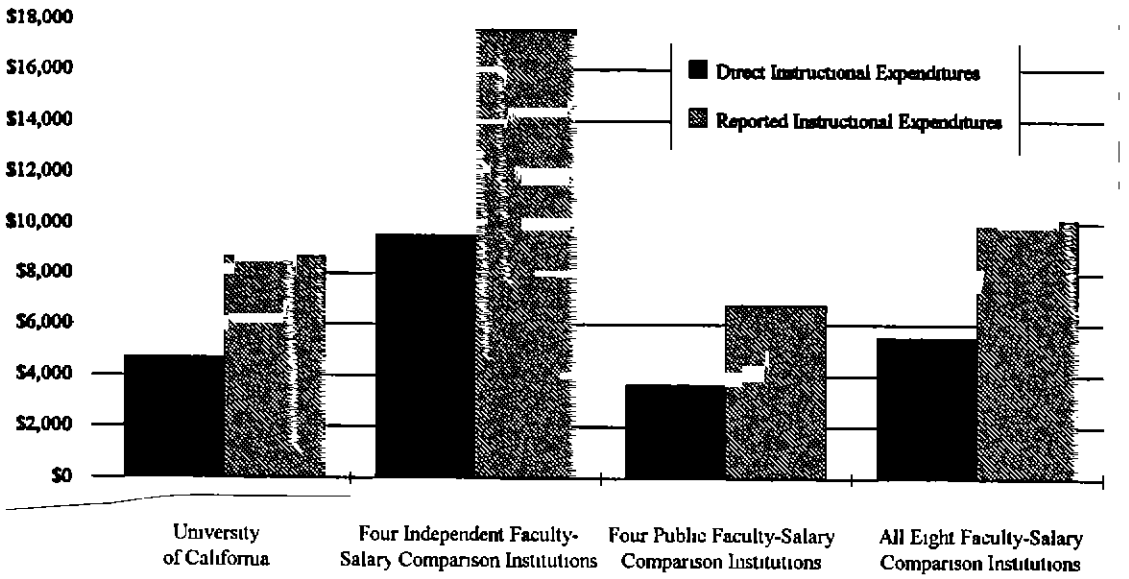
Adjustments in reported academic and institutional support and maintenance of plant expenditures were made to account for costs in these categories related to research and public service

Source All data obtained directly from institutions listed, with the San Francisco campus of the University of California excluded from the data for the University

shows that this is indeed the case, although great variation exists between the University's public and independent faculty-salary comparison groups

In 1989-90, the University's Reported and Direct Instructional Expenditures were both 14 6 percent lower than similar expenses for the average of its eight-university faculty-salary comparison group When compared to only the four independent universities in this group -- Harvard, MIT, Stanford, and Yale -- its expenses were 50 8 percent lower than their average, as illustrated in Display 14 When compared to the four public institutions in the group -- the State University of New York, Buffalo, and the Universities of Illinois (Urbana-Champaign), Michigan (Ann Arbor), and Virginia (Charlottesville) -- its expenses were 28 0 percent higher

DISPLAY 14 *Direct and Reported Instructional Expenditures per Full-Time-Equivalent Student of the University of California and its Independent and Public Faculty-Salary Comparison Institutions, 1989-90*

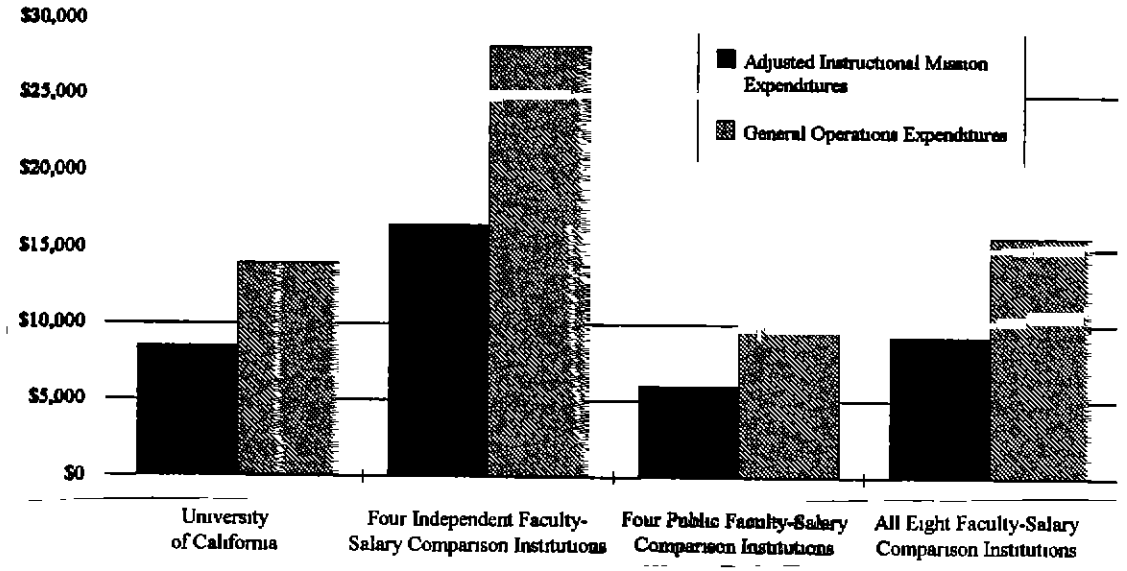


Note Direct Instructional Expenditures reflect Reported Instructional Expenditures less faculty compensation related to research and public service.

Source Display 13

Similar relationships exist between the University's Adjusted Instructional Mission Expenditures and General Operations Expenditures and those of its faculty-salary comparison group (Display 15, page 50) In these cases, its expenditures were 8 0 and 11 3 percent below the average for the overall group, respectively Similar to the Reported and Direct Instructional Expenditure figures, the University's Adjusted Instructional Mission Expenditures were 48 6 percent below the average of the four independent institutions, and its General Operations Expenditures were 50 4 percent

DISPLAY 15 *Adjusted Instructional Mission and General Operations Expenditures per Full-Time-Equivalent Student of the University of California and its Independent and Public Faculty-Salary Comparison Institutions, 1989-90*



Note Adjusted Instructional Mission Expenditures reflect General Operations Expenditures less faculty compensation and indirect expenses related to research and public service

Source Display 13

below Conversely, compared to the four public institutions, its expenditures were 42 9 percent higher (Adjusted Instructional Mission Expenditures) and 36 5 percent higher (General Operations Expenditures)

Comparison of the University's instructional costs with those of mission-similar universities

For a broader sample of institutions than the University's eight faculty-salary comparison universities, the Commission gathered instructional expenditure data from a nationwide group of 60 major public and independent universities that were classified by the Carnegie Commission on Higher Education as particularly research oriented (''Research 1'') (The criteria for classifying these institutions are outlined on pages 30-33 above, and Display 16 on the next two pages lists all of these institutions by public/independent status and state) Overall, the University had Direct and Reported Instructional Expenditures 7 6 percent above the average of this group as a whole Its Adjusted Instructional Mission Expenditures were 15 5 percent higher, and its General Operations Expenditures were 18 9 percent higher

Comparing the University separately against the public and the independent universities in this national sample reveals somewhat similar relationships to those seen with the University's faculty-salary comparison institutions The University's expenses were significantly lower than those

DISPLAY 16 *Instructional Expenditures per Full-Time-Equivalent Student of "Research 1" Universities and Campuses of the University of California, 1989-90, Listed Alphabetically by State in Public and Independent Categories*

Institution	Carnegie Classification	FTE Enrollment	Direct Instructional Expenditures per FTE	Reported Instructional Expenditures per FTE	Adjusted Instructional Mission Expenditures per FTE	General Operations Expenditures per FTE
Public Institutions						
University of Arizona	Research 1	30,011	$3,062	$5,639	$4,838	$8,351
University of California, Berkeley	Research 1	28,704	$4,112	$7,572	$8,020	$12,877
University of California, Davis	Research 1	21,432	$4,983	$9,177	$8,632	$14,385
University of California, Irvine	Research 1	15,315	$5,222	$9,616	$9,019	$14,824
University of California, Los Angeles	Research 1	32,327	$6,334	$11,666	$10,697	$18,336
University of California, Riverside	Doctoral 1	7,711	$3,577	$6,587	$7,111	$11,456
University of California, San Diego	Research 1	16,583	$5,135	$9,457	$8,755	$14,534
University of California, San Francisco	Research 1	3,639	$20,013	$36,857	$32,901	$58,802
University of California, Santa Barbara	Research 2	17,792	$2,839	$5,228	$6,062	$9,396
University of California, Santa Cruz	Doctoral 1	9,360	$2,976	$5,480	$6,379	$9,959
Colorado State University	Research 1	18,735	$2,654	$4,888	$4,054	$6,940
University of Colorado at Boulder	Research 1	22,964	$2,448	$4,509	$4,501	$7,262
University of Connecticut	Research 1	20,372	$2,534	$4,667	$5,488	$8,868
University of Florida	Research 1	30,338	$3,931	$7,240	$5,813	$9,981
University of Georgia	Research 1	24,634	$2,346	$4,320	$3,480	$6,070
University of Hawaii at Manoa	Research 1	15,048	$3,778	$6,957	$5,729	$9,770
University of Illinois at Chicago	Research 1	19,755	$4,419	$8,138	$7,184	$12,603
University of Illinois at Urbana	Research 1	35,625	$2,621	$4,828	$4,294	$7,157
Indiana University, Bloomington	Research 1	31,187	$2,703	$4,977	$4,948	$8,524
Purdue University (Main Campus), Indiana	Research 1	33,392	$3,112	$5,731	$4,370	$7,744
University of Iowa	Research 1	25,108	$3,643	$6,709	$5,691	$9,728
University of Kentucky	Research 1	18,753	$3,480	$6,408	$5,320	$9,118
Louisiana State University and A&M Center	Research 1	23,468	$2,076	$3,824	$2,978	$5,263
University of Maryland, College Park	Research 1	29,657	$2,786	$5,130	$4,830	$8,153
Michigan State University	Research 1	34,161	$3,712	$6,835	$5,217	$9,049
University of Michigan, Ann Arbor	Research 1	34,161	$4,395	$8,094	$7,461	$12,566
University of Minnesota, Twin Cities	Research 1	36,843	$4,555	$8,389	$7,153	$12,201
University of Missouri, Columbia	Research 1	21,535	$3,234	$5,955	$4,769	$8,159
North Carolina State University at Raleigh	Research 1	20,560	$3,381	$6,227	$4,599	$8,115
University of North Carolina at Chapel Hill	Research 1	20,811	$6,029	$11,104	$7,815	$14,031
Rutgers University at New Brunswick, New Jersey	Research 1	27,094	$4,318	$7,952	$7,937	$13,258
New Mexico State University, Main Campus	Research 1	11,741	$1,834	$3,378	$2,884	$4,724
University of New Mexico, Main Campus	Research 1	18,405	$2,506	$4,615	$3,742	$6,393
SUNY at Stony Brook	Research 1	13,909	$4,821	$8,878	$7,885	$13,779
Ohio State University, Main Campus	Research 1	45,277	$3,796	$6,990	$5,616	$9,731
University of Cincinnati (Main Campus), Ohio	Research 1	23,649	$3,395	$6,253	$5,199	$8,994
Oregon State University	Research 1	14,943	$2,265	$4,172	$3,440	$5,902
Pennsylvania State University, Main Campus	Research 1	34,827	$2,590	$4,770	$4,198	$7,168
University of Pittsburgh (Main Campus), Pennsylvania	Research 1	21,853	$4,046	$7,452	$6,946	$11,712
University of Tennessee, Knoxville	Research 1	21,258	$2,945	$5,424	$4,716	$7,900
Texas A&M University	Research 1	37,568	$2,619	$4,824	$3,847	$6,849
University of Texas at Austin	Research 1	45,739	$2,449	$4,511	$3,612	$6,317
University of Utah	Research 1	18,388	$3,109	$5,726	$4,664	$8,016
University of Virginia, Main Campus	Research 1	17,306	$4,295	$7,910	$6,987	$12,035
Virginia Polytechnic Institute and State University	Research 1	22,611	$3,127	$5,758	$4,431	$7,757
University of Washington	Research 1	28,883	$5,218	$9,610	$7,598	$13,538
University of Wisconsin, Madison	Research 1	38,864	$2,947	$5,427	$4,588	$7,738

(continued)

DISPLAY 16, concluded

Campus	Carnegie Classification	FTE Enrollment	Direct Instructional Expenditures per FTE	Reported Instructional Expenditures per FTE	Adjusted Instructional Mission Expenditures per FTE	General Operations Expenditures per FTE
Independent Institutions						
Stanford University, California	Research I	12,918	$8,765	$16,141	$18,040	$25,417
California Institute of Technology	Research I	1,823	$19,043	$35,070	$32,838	$48,865
University of Southern California	Research I	23,110	$5,548	$10,217	$10,395	$15,064
Yale University, Connecticut	Research I	10,403	$13,350	$24,586	$25,351	$36,587
University of Miami, Florida	Research I	12,373	$5,323	$9,803	$9,509	$13,989
Northwestern University, Illinois	Research I	14,495	$6,610	$12,173	$11,441	$17,004
University of Chicago, Illinois	Research I	9,559	$13,487	$24,838	$20,166	$31,517
Johns Hopkins University, Maryland	Research I	8,328	$20,959	$38,598	$33,269	$50,909
Boston University, Massachusetts	Research I	23,691	$4,539	$8,359	$10,407	$14,227
Harvard University, Massachusetts	Research I	17,139	$8,478	$15,613	$20,022	$27,157
Massachusetts Institute of Technology	Research I	9,234	$8,301	$15,287	$17,558	$24,544
Washington University, Missouri	Research I	9,163	$16,185	$29,806	$25,550	$39,171
Duke University, North Carolina	Research I	10,472	$8,187	$15,078	$14,897	$21,788
Princeton University, New Jersey	Research I	6,391	$6,542	$12,047	$15,863	$21,368
Columbia University in the City of New York, New York	Research I	14,965	$9,014	$16,600	$13,011	$20,597
Cornell University Endowed Colleges, New York	Research I	11,664	$5,838	$10,751	$12,483	$17,396
New York University	Research I	23,176	$7,329	$13,498	$14,691	$20,860
University of Rochester, New York	Research I	8,050	$7,242	$13,337	$13,209	$19,304
Case Western Reserve University, Ohio	Research I	6,091	$6,621	$12,194	$12,959	$18,531
Carnegie Mellon University, Pennsylvania	Research I	6,288	$7,022	$12,931	$11,930	$17,839
University of Pennsylvania	Research I	19,342	$6,467	$11,910	$12,996	$18,439
Vanderbilt University, Tennessee	Research I	8,526	$6,044	$11,131	$10,519	$15,606

Notes Direct Instructional Expenditures reflect Reported Instructional Expenditures less faculty compensation related to research and public service

Adjusted Instructional Mission Expenditures reflect Direct Instructional Expenditures plus student services, adjusted academic support, institutional support, and maintenance and operation of plant.

General Operations Expenditures include Reported Instructional Expenditures plus academic support, institutional support, student services, and maintenance and operation of plant.

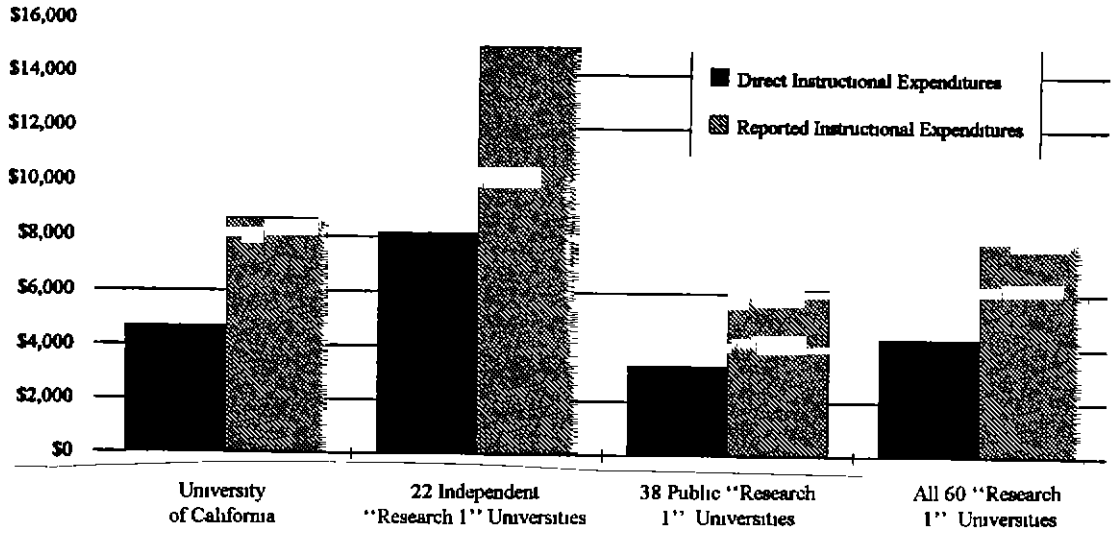
Adjustments in reported academic and institutional support and maintenance of plant expenditures were made to account for costs in these categories related to research and public service

The only "Research I" institution not included in this list because of insufficient data for 1989-90 is Georgia Institute of Technology

Source All data obtained directly from institutions listed

for the average of the 22 independent universities in the sample but somewhat above those for the 38 public universities Specifically, compared to the average of the independent institutions, its Direct and Reported Instructional Expenditures were 42 4 percent less, its Adjusted Instructional Mission Expenditures 44 3 percent less, and its General Operations Expenditures 36 7 percent less In contrast, its Direct and Reported Instructional Expenditures were 40 5 percent higher than the average of the public institutions, while its Adjusted Instructional Mission and General Operations Expenditures were 62 7 percent and 56 1 percent higher, respectively Displays 17 and 18 show these differences graphically

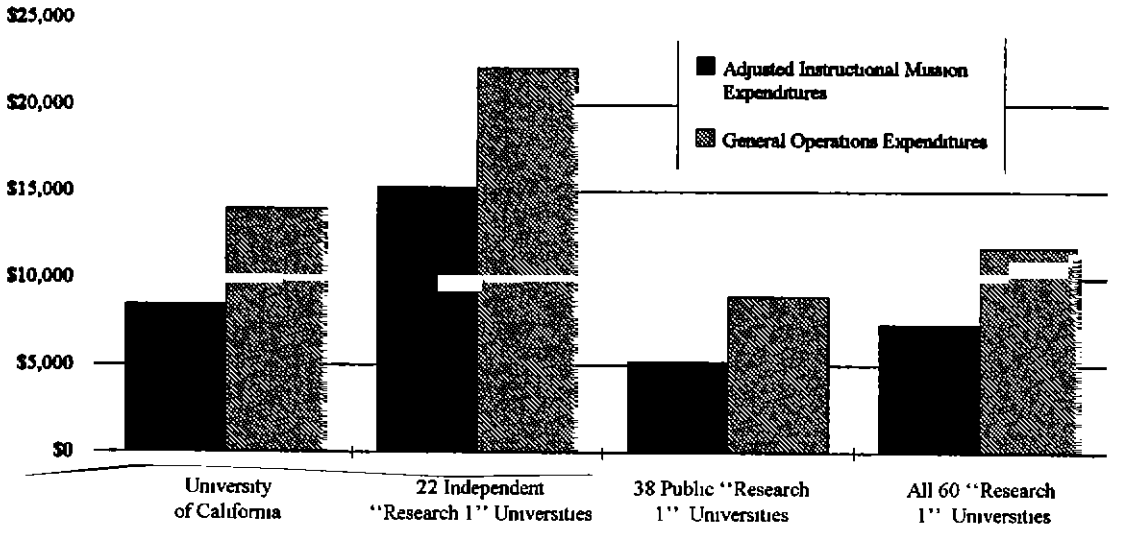
DISPLAY 17 Direct and Reported Instructional Expenditures per Full-Time-Equivalent Student of the University of California and 60 "Research 1" Universities, 1989-90



Note Direct Instructional Expenditures reflect Reported Instructional Expenditures less faculty compensation related to research and public service.

Source Display 16

DISPLAY 18 Adjusted Instructional Mission and General Operations Expenditures per Full-Time-Equivalent Student of the University of California and 60 "Research 1" Universities, 1989-90



Note Adjusted Instructional Mission Expenditures reflect General Operations Expenditures less faculty compensation and indirect expenses related to research and public service

Source Display 16

6 Trends in California Public Higher Education Revenue

The Supplemental Budget Language that called for this report did not direct the Commission to conduct a comparative examination of revenue trends as well as instructional costs, but the Commission has found it important to undertake this analysis for three reasons

1 In conducting its national comparisons of institutional expenditures for 1989-90, the Commission had neither the time nor the resources to expand the scope of the study to examine trends in these expenditures up to that year However, reliable long-term data on revenue trends are readily available, and while they are not a perfect proxy for those expenditure data, they provide an important long-term context to the one-year expenditure data contained in this report

2 Because the 1989-90 year immediately preceded three disastrous budget years for California, it was imperative that the Commission do whatever it could to indicate how the relative position of the California State University and the University of California may have changed since then in comparison to the other institutions analyzed in this study Because obtaining revenues necessarily precedes their spending, revenue data invariably becomes available more rapidly than expenditure data In this section of the report, the Commission therefore uses revenue data through 1992-93 in an attempt to infer how the comparative financial condition of California's public universities have changed since 1989-90

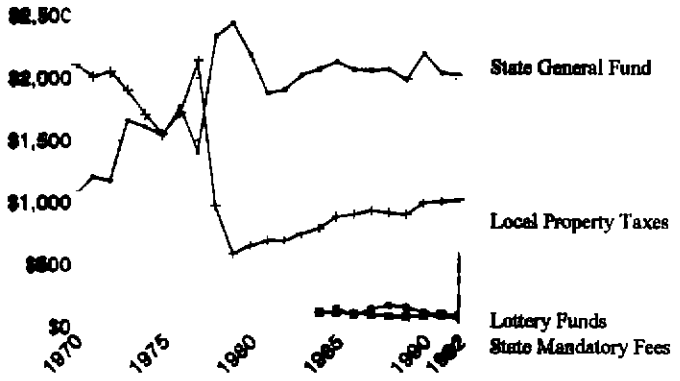
3 While expenditure data provides the clearest indication of the *institutional* cost of providing educational services, state appropriations to higher education provide the clearest indication of the *state's* cost of supporting these institutions Analysis of state appropriations, as called for in the Supplemental Language, and other revenues provided to higher education can thus add an important dimension to understanding the financial profiles of academic institutions

California Community Colleges

The major recent event in revenue trends of the California Community Colleges is that local assistance funds per full-time-equivalent student dropped precipitously throughout the community college system in direct response to Proposition 13, the historic initiative approved by California's voters in 1978 and limited the amount that property owners must pay in

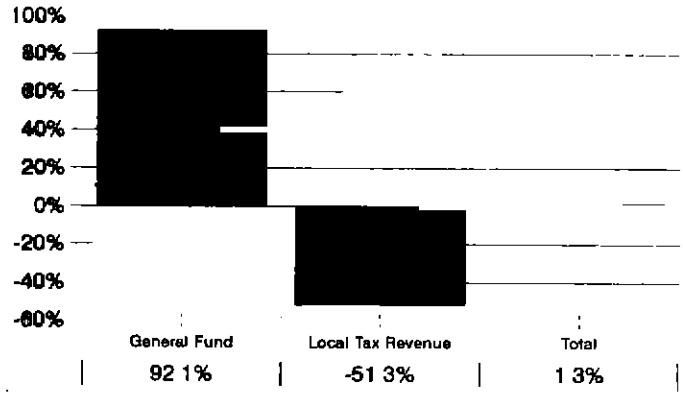
local taxes Until then, the majority of community college funding in California came from the local property-tax base To alleviate the significant shortfalls in local property-based revenue, the State significantly increased its General Fund allocations to its community college districts beginning with the 1978-79 budget year, as Display 19 shows

DISPLAY 19 Selected Sources of Funds for Current Operations of the California Community Colleges in Constant 1992 Dollars per Full-Time-Equivalent Student, 1970-71 Through 1992-93



Source Commission staff analysis of data contained in the Governor's Budget and Legislative Analyst's Budget Analysis, 1969-70 through 1992-93, and supplemental information.

DISPLAY 20 Percent Change in Funding for the California Community Colleges from the State General Fund and Local Tax Revenue, 1970-71 through 1992-93, in Constant 1992 Dollars per Full-Time-Equivalent Student



Source Commission staff analysis of data contained in the Governor's Budget and Legislative Analyst's Budget Analysis, 1969-70 through 1992-93, and supplemental information

Despite this large shift in the sources of funds for the community colleges, the trends shown in Display 19 indicate that the community colleges have maintained relatively constant total revenues per full-time-equivalent student during the past two decades, although in the most recent three-year period total resources for the system have improved This modest improvement, which has helped maintain relatively constant revenues for the community colleges on a per-student basis, is a function of Proposition 98 in 1990, which sought to guarantee the State's public schools and the community colleges a consistent share of the State's total General Fund revenues

Between 1970-71 and 1992-93, full-time-equivalent enrollment increased by 56 8 percent in the community colleges Display 20 shows that during this same period, State General Funds per full-time-equivalent student increased by 92 1 percent, while local tax revenue decreased by 51 3 percent in terms of 1992 Consumer Price Index-adjusted dollars

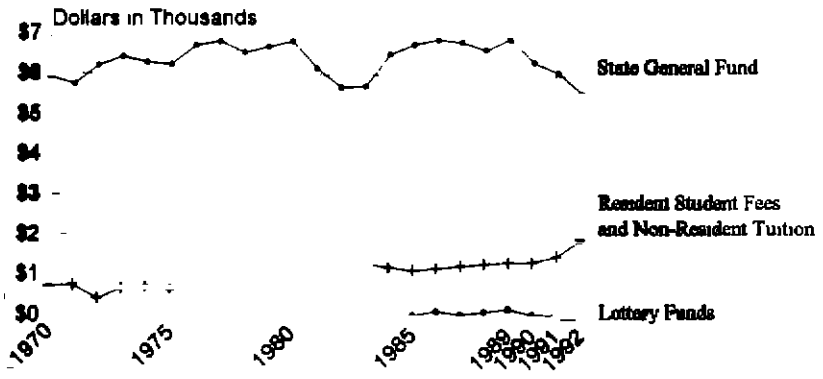
Although intended to supplement state and local allocations to the community college districts, California Lottery revenues per student have been insignificant, and have provided the community colleges with only a marginal supplement to its revenue base. Revenues generated from fees have also been minimal Recently, annual student fee revenues have remained constant at about $100 per student

Even though the community colleges' revenue trends appear somewhat more optimistic than those for California's two public universities, the colleges still face monumental challenges in the future At best, the community colleges can expect local assistance funds to increase modestly, while General Fund revenues can be expected to grow consistent with overall growth in the State General Fund Recent budget proposals, however, indicate a likely shift from General Fund support for community colleges to a greater reliance on local assistance funds The challenge for the colleges arises in the fact that long-range enrollment projections point to enrollment growth at rates significantly higher than the combined increases in local assistance and the State General Fund In addition, if the crisis facing the universities forces them to continue increasing student fees or limit student access significantly below Master Plan guidelines, enrollment pressure in the community colleges will increase even further If these projections bear out, the community colleges face the same dilemma as the universities They must either significantly increase student fees, limit student access, or decrease per-student expenditures

The California State University

After reaching a peak in the late 1980s, State General Funds per full-time-equivalent student at the State University have declined steadily in constant 1992 dollars, and student fees have been raised substantially in an effort to partially offset those reductions (Display 21) Lottery revenues per full-time-equivalent student have been insignificant and have not assisted the State University in recovering any of the declines in State General Fund revenue

DISPLAY 21 Selected Sources of Funds for Current Operations of the California State University in Constant 1992 Dollars per Full-Time-Equivalent Student, 1970-71 Through 1992-93

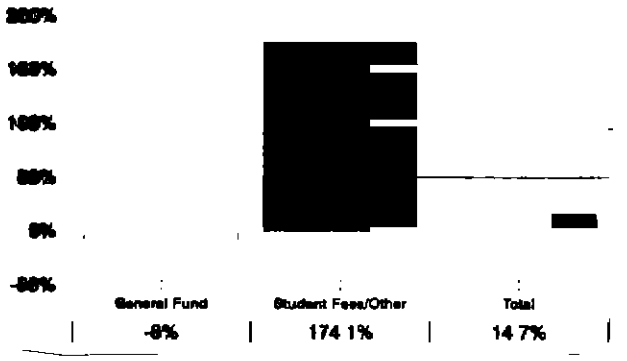


Source Commission staff analysis of data contained in the Governor's Budget and Legislative Analyst's
Budget Analysis, 1969-70 through 1992-93, and supplemental information.

Display 22 on page 58 shows that between 1970-71 and 1992-93, State General Funds for the State University per full-time-equivalent student decreased by 6 0 percent, while student fees increased by 174 1 percent For all selected fund sources under analysis, total revenues per student increased by 14 7 percent over this 22-year period

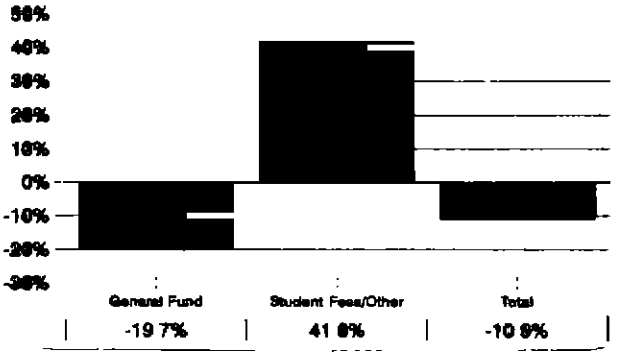
Display 23 indicates that since 1989-90 -- the year employed for the expenditures portion of this study, State General Fund revenues per student have decreased each year through 1992-93 Specifically, the level of per-student State support the State University is re-

DISPLAY 22 Percent Change in Funding for the California State University by Major Revenue Source in Constant 1992 Dollars per Full-Time-Equivalent Student, 1970-71 Through 1992-93



Source Commission staff analysis of data contained in the Governor's Budget and Legislative Analyst's Budget Analysis, 1969-70 through 1992-93, and supplemental information.

DISPLAY 23 Percent Change in Funding for the California State University by Major Revenue Source in Constant 1992 Dollars per Full-Time-Equivalent Student, 1989-90 Through 1992-93



Source Commission staff analysis of data contained in the Governor's Budget and Legislative Analyst's Budget Analysis, 1989-90 through 1992-93, and supplemental information.

DISPLAY 24 Percent Change in State Appropriations for the California State University and Its 15 Public Faculty-Salary Comparison Institutions per Full-Time-Equivalent Student, 1989-90 Through 1992-93

University of Nevada, Reno	+39 6%	Cleveland State University	-2 2%
Arizona State University	+17 7	Illinois State University	-4 3
University of Wisconsin, Milwaukee	+12 2	The California State University	-7 7
Georgia State University	+9 6	Rutgers University College at Newark	-8 1
Wayne State University	+8 9	University of Maryland, Baltimore County	-11 5
University of Texas, Arlington	+7 3	University of Connecticut	-11 8
North Carolina State University	+4 5	George Mason University	-13 3
University of Colorado, Denver	+2 7		
State University of New York at Albany	-1 5	Mean, excluding the State University	+2 5
		Mean, including the State University	-2 7

Source Commission staff analysis.

ceiving this year is 19 7 percent below the amount it received just three years ago in 1989, and total revenues have declined 10 9 percent over that period

Comparing the State University to its 14 public faculty-salary comparison institutions in terms of changes in state appropriations since 1989-90, the State University ranks twelfth, with a 7 7 percent decline (Display 24)

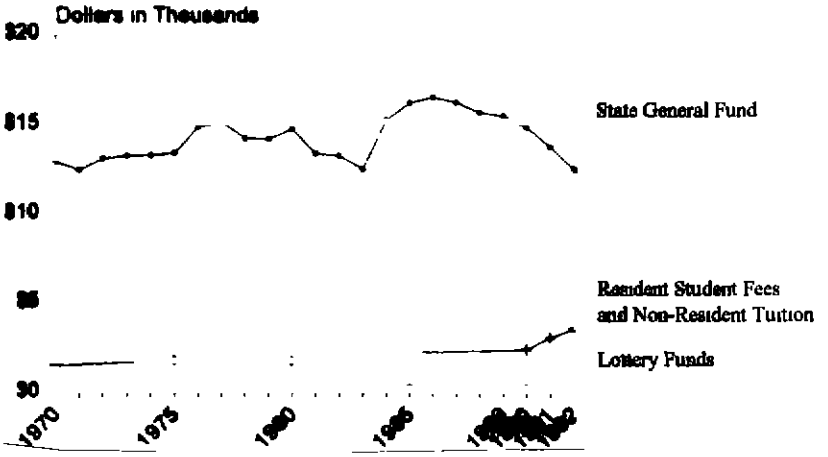
The University of Nevada, Reno, heads the list with a 39 6 percent increase, followed by Arizona State University with a 17 7 percent increase The California State University was trailed by Rutgers University, Newark (-8 1 percent), the University of Maryland, Baltimore County (-11 5 percent), the University of Connecticut (11 8 percent), and George Mason University (-13 3 percent)

Taken as a whole, since 1989-90 the comparison group experienced an average increase in state appropriations of 2 5 percent, compared to the 7 7 percent decline experienced by the State University over the same period

University of California

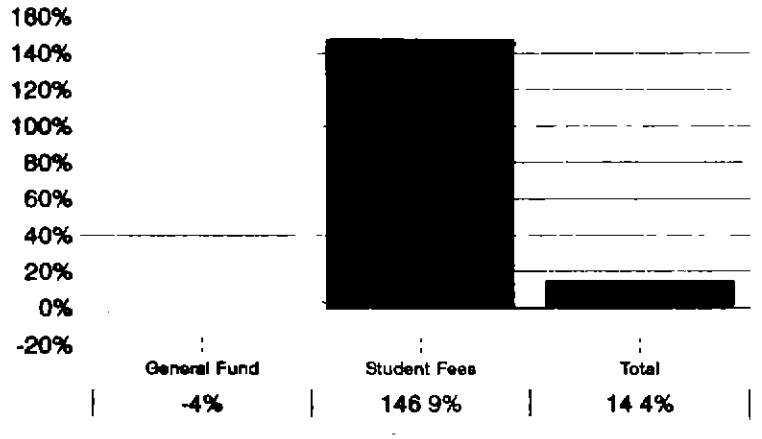
The revenue trends of the University of California are very similar to those described for the California State University Display 25 shows that after reaching a peak in the mid 1980s, State General Funds per full-time-equivalent student in constant 1992 dollars declined steadily at the University During this same period, student fees increased substantially Lottery revenues have remained insignificant and have not assisted the University in recovering any of the reductions in its State General Fund allocations In fact, in recent years lottery revenues have actually declined in constant dollars

DISPLAY 25 Selected Sources of Funds for Current Operations of the University of California in Constant 1992 Dollars per Full-Time-Equivalent Student, 1970-71 Through 1992-93



Source Commission staff analysis of data contained in the Governor's Budget and Legislative Analyst's Budget Analysis, 1967-68 through 1992-93, and supplemental information

DISPLAY 26 Percent Change in Funding for the University of California by Major Revenue Source in Constant 1992 Dollars per Full-Time-Equivalent Student, 1970-71 Through 1992-93



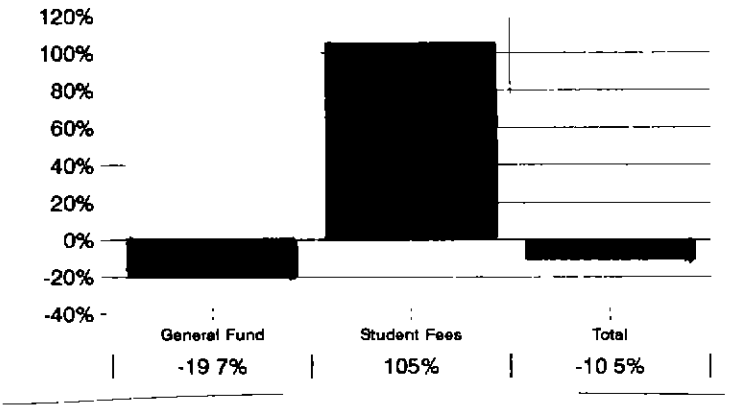
Source Commission staff analysis of data contained in the Governor's Budget and Legislative Analyst's Budget Analysis, 1967-68 through 1992-93, and supplemental information

Display 26 shows that at the University between 1970-71 and 1992-93, State General Funds per full-time-equivalent student actually decreased by 4 0 percent, while student fees on a per-student basis increased by 146 9 percent Detailed data show that for the past seven years since 1986-87, the amount of State General Funds per student have declined in every subsequent year

Display 27 on page 58 shows that since 1989-90, the University's student fee revenue per full-time-equivalent student has increased by 105 percent while its State General Funds have declined by 19 7 percent For all fund sources examined in this analysis, total constant-dollar revenue has declined on a per-student basis by 10 5 percent

Comparing trends in the University of California's General Fund appropriations since 1989-90 with those for its four

DISPLAY 27 Percent Change in Funding for the University of California by Major Revenue Source in Constant 1992 Dollars per Full-Time-Equivalent Student, 1989-90 Through 1992-93



Source Commission staff analysis of data contained in the Governor's Budget and Legislative Analyst's Budget Analysis, 1989-90 through 1992-93, and supplemental information.

DISPLAY 28 Percent Change in State Appropriations for the University of California and Its Four Public Faculty-Salary Comparison Institutions per Full-Time-Equivalent Student, 1989-90 Through 1992-93

University of Michigan, Ann Arbor	+9 1%
State University of New York at Buffalo	0 9
University of Illinois, Urbana-Champaign	-3 1
University of California	-9 4
University of Virginia	-18 1
Mean, excluding the University of California	-1 0
Mean, including the University of California	-7 0

Source Commission staff analysis.

DISPLAY 29 Percent Change in State Appropriations for Higher Education in 13 Major Industrial States, 1989-90 Through 1992-93, with the California State University and the University of California Shown for Illustrative Purposes

Washington	+14 3%	Ohio	-3 5
Michigan	+9 3	The California State University	-7 7
Texas	+6 8	Florida	-9 1
North Carolina	+5 4	University of California	-9 4
New Jersey	+4 8	California	-11 8
Minnesota	+2 0	Virginia	-14 2
Pennsylvania	+1 4	New York	-15 6
Illinois	+0 4	Mean of 12 other states	-3 7

Source Commission staff analysis

public faculty-salary comparison institutions, Display 28 indicates that the University ranks fourth out of five, trailed only by the University of Virginia, which suffered an 18 1 percent loss in state funds over the same period The University's 9 4 percent reduction in State general fund appropriations also contrasts sharply to the 1 0 percent average decline experienced by the four faculty-salary comparison institutions as a group

Comparing changes in state appropriations for both the California State University and the University of California since 1989-90 with changes in state higher education appropriations in 12 major industrial states provides a general indication of how the University and the State University's fiscal conditions may have changed relative to the rest of the nation since 1989-90 Display 29 indicates that state higher education appropriations declined by 3 7 percent over the same period for those 12 states Washington heads the comparison with an increase in state appropriations of 14 3 percent, while only Virginia and New York trailing California's overall decline of 11 8 percent with declines of 14 2 percent, and 15 6 percent, respectively

Summary Although this analysis is far from definitive, it indicates that the relative fiscal condition of California's two public universities has deteriorated since 1989-90, both in comparison with the California Community Colleges and with comparison groups of institutions elsewhere in the country Because State appropriations constitute a considerable portion of both universities' budgets, it seems likely that their comparative position vis-a-vis other universities in terms of instructional expenditures has not improved over the same period Indeed, as the rest of the country begins to emerge from the recent recession while California faces another multi-billion dollar State deficit in 1993-94, it is unlikely that the comparative position of California's institutions will improve soon, either in terms of State appropriations or institutional expenditures for instruction

7 Next Steps in the Commission's Analysis of Instructional Costs

THE Commission foresees several steps that are both necessary and desirable as it continues its analysis of instructional expenditures and appropriations

- One is simply to refine and extend over time the analysis of institutional expenditures for instruction in California public higher education that it has begun in this report Because of limited resources, the Commission was able to make comparisons in this study only for 1989-90 -- the most recent year for which institutional expenditure data were available In the future, it anticipates examining changes in these expenditure patterns as more recent data become available

- A second step is to integrate more closely the Commission's analyses of expenditure trends with those of revenue trends Institutional costs are not incurred in a vacuum -- they are almost entirely dependent on the availability of revenues Thus as the Commission begins to examine changes in expenditures over time, it will be essential to know how increases or decreases in available revenues affect these observed spending changes -- particularly in light of likely unrelenting revenue shortfalls for California higher education over the next several years

- Third, the Commission hopes to integrate these revenue and expenditure analyses with long-range enrollment projections By tying revenue forecasts to enrollment projections, it should be possible to estimate how the future availability of funds is likely to translate on the expenditure side of the budget on a per-student basis This integration of revenue, expenditure, and enrollment projections could be valuable at the State, system, and campus levels as a means to develop contingency plans for coping simultaneously with both increasing enrollment demand and multi-year budget shortfalls

- Fourth and finally, the Commission seeks to work cooperatively with the systems in analyzing with more detail the factors that determine the cost of instruction If the only issue requiring analysis were to project the revenue levels necessary to accommodate enrollment growth based on historic per-student expenditure levels, the information from the previously suggested areas of inquiry would be adequate But the

Commission senses general agreement in the educational community as well as in government that "business as usual" will not suffice for higher education in this difficult fiscal climate In the following paragraphs, the Commission explains the rationale underpinning its belief that more detailed analysis is essential in its continuing effort to examine the factors that determine the cost of instruction

Reasons for analyzing the factors that affect instructional expenditures

The Commission has repeatedly pointed to dramatic enrollment pressure facing California higher education in the coming years (1990, 1991, 1992a, 1992b) Coupled with the likelihood that State revenues will be unable to keep pace with the budget augmentations historically related to enrollment growth, this explosion of enrollment demand leads to the consideration of three general types of options for California higher education (1) increasing non-governmental revenues, (2) reducing the number of students enrolled, or (3) increasing institutional productivity, resulting in lower per-student expenditures

Regarding the first of these options -- increasing non-governmental revenues -- the State has charged the Commission to work with a wide-ranging advisory group to develop recommendations for change in the major source of these funds student fees The Commission expects to submit its views later this year on a series of alternative student fee and financial aid policies stemming from that project, for consideration by the public, educators, the Legislature, and the executive branch of State government Yet general agreement exists that continually raising fees, regardless of building in protections of increased financial aid, cannot by itself solve California's problem of adequately financing higher education

Regarding the second option -- that of reducing access, State and system policy makers are already seriously considering limiting enrollment to levels significantly below current demand projections This should not be surprising, since limiting enrollment has a surface attractiveness It enables institutions to accommodate a static or declining revenue base while maintaining, to the extent possible, current per-student expenditures Because it has the effect of spreading available funds over fewer students, this alternative represents the least disruptive option with regard to higher education's current instructional and general institutional practices As a budgetary strategy, it preserves the current shape and routine of current instructional practices, albeit on a more limited scale

However, limiting access is probably the most disruptive option for students of any of the three The Commission believes it would have such severe economic and social consequences for California that even though some limits on enrollment may be inevitable, given the depth of the State's budget crisis, for the long run it should be seen only as a last resort after all strategies for raising revenues and reducing per-student costs have been explored

While limiting enrollment is certainly not "business as usual" as far as historic access policies are concerned, from an institutional point of view limiting enrollment is far more status-quo oriented than the third option of reducing per-student expenditures That option invariably raises the possibility of diminished educational quality, but on the assumption that institutions may be able to reduce per-student expenditures at least a bit without sacrificing quality, the Commission believes that this alternative must be carefully examined prior to systematically limiting student access in response to chronic budget cuts

Obviously a systematic search for new efficiencies in per-student expenditures will identify strategies that would have negative effects on educational quality, and the Commission holds that those proposed strategies should be rejected out of hand However, given the depth of the current fiscal crisis it does not seem reasonable, prior to such a careful examination, to assume that a linear and immutable relation exists between lower per-student expenditures and lower educational quality In the current fiscal environment, no one can afford to assume, de facto, that one absolutely must follow the other

In short, because of the likelihood of future chronic limitations in available revenue, an exhaustive search for alternatives to business-as-usual necessarily includes identifying how per-student expenditures might be reduced without endangering institutional quality And the only way to identify options for changing per-student expenditure levels, independent of their historic relationship to available revenues, is to go beyond analyses of the interaction between revenues and expenses to the question of what these expenditures actually buy

Analyzing cost centers of instruction

It may be obvious, but there is only one way to fully understand why collegiate instruction costs what it does -- by defining with some precision how these funds are actually spent If State resources and student fees cannot underwrite all desirable instructional possibilities, then an analysis of the specific cost centers that comprise overall institutional costs will be central to providing policy makers with guidance both as to the limits of potential reductions, given the State's commitment to educational quality, as well as how less-essential expenditures might be most responsibly contained

As a starting point, it is well known that institutions devote the vast majority of their instructional resources to salary and related compensation for faculty and other instructionally related staff When faculty and staff compensation is tied to student/faculty ratios, faculty and staff workload policies, and particular instructional levels and mixes of programs, then the overwhelming majority of instructional costs can be accounted for

Given this fact, if future revenues are likely to be insufficient to accommo-

date both projected enrollment demand and historic per-student expenditures, then it follows that adjustments in compensation, staffing, workload policies, and instructional emphasis by level and program mix represent the heart of the few options that are available to significantly change per student expenditure patterns To examine the potential for enhancing institutional productivity, the systems and the Commission will of necessity have to analyze how instructional expenditures translate into compensation, staffing, and workload patterns for faculty and other staff by instructional level and, to the greatest extent possible, by program area

Without this information it will not be possible to identify or assess possible alternatives to the current expenditure patterns in California higher education In addition, and to higher education's benefit, when these data are available they will provide institutions and the Commission with timely and compelling documentation of the deleterious effects of ongoing budget reductions Without such a careful examination, once all one-time approaches (such as early retirement plans) have been exhausted, then the only remaining options for accommodating State revenue cuts will be to raise student fees or limit enrollment

The Commission does not attempt to prejudge the potential benefits of pursuing specific strategies that result in lower per-student expenditures, or the negative impact that some adjustments might have on instructional quality or the attainment of other institutional missions But given the certainty of significant reductions in student access if revenue levels do not increase and per-student expenditures are not reduced, a careful analysis of these cost-containment strategies is warranted Thus the Commission holds that the relations between instructional expenditures and current compensation policies, staffing patterns, workload practices, and instructional emphasis by level and program mix are all central to its ongoing analysis of the major finance issues confronting California higher education

Appendix A: Supplemental Report Language

Funding Gap Study

California Postsecondary Education Commission

The Legislature intends that the California Postsecondary Education Commission (CPEC) review and comment upon both the preliminary and final segmental reviews of state financing of the Master Plan for higher education provided for in items 6440-001-001, 6610-001-001, 6870-001-001, and 7980-001-001 of the Supplemental Report to the 1991 Budget Act In reviewing and commenting on the individual governing board presentations, the Commission shall comment on the alternatives that each board considered to affect institutional costs and the effect of those alternatives on faculty workload policies, program scope, and administrative costs It shall also comment on the impact of these alternatives on program quality and student access to the segment The Commission is further requested to compare the individual governing boards plans and priorities for maintaining their Master Plan functions under the current state budget constraints, and to raise any concerns it may have about the effect of different segmental postures on the integrity of the Master Plan Such review shall be submitted to the Governor and Legislature by May 1, 1992

University of California

The Legislature requests the University of California Regents to document the extent of the current gap, if any, between state appropriations for the University of California and funding that is needed to fully support the university's current mission under the state Master Plan for higher education The review shall include where possible an identification of the consequences of the funding gap on program quality and student access This review should include the Regents' plans and priorities for maintaining their mission under current state funding scenario, accompanied by recommendations to the Governor and the Legislature on future state policies for financing the University of California A preliminary review should be forwarded to the Governor, Legislature, and CPEC by December 15, 1991 The segment's final report shall be transmitted to the Governor, Legislature, and CPEC by April 1, 1992 CPEC shall comment on the segment's final report, and transmit its comments to the Governor and Legislature by May 1, 1992 The final segmental report should be managed so as to invite public comment on the Regents' recommendations

The California State University

The Legislature requests the California State University Board of Trustees to document the extent of the current gap, if any, between state appropriations for the CSU and funding that is needed to fully support the state university's current mission under the state Master Plan for higher education The review shall include where possible an identification of the consequences of the funding gap on program quality and student access This review should include the Trustees' plans and priorities for maintaining their mission under current state funding scenario, accompanied by recommendations to the Governor and the Legislature on future state policies for financing the CSU A preliminary review should be forwarded to the Governor, Legislature, and CPEC by December 15, 1991 The segment's final report shall be transmitted to the Governor, Legislature, and CPEC by April 1, 1992 CPEC shall comment on the segment's final report, and transmit its comments to the Governor and Legislature by May 1, 1992 The final segmental report should be managed so as to invite public comment on the Trustees' recommendations

California Community Colleges

The Legislature requests the California Community Colleges Board of Governors to document the extent of the current gap, if any, between state appro-

priations for the CCC and funding that is needed to fully support the community colleges' current mission under the state Master Plan for higher education The review shall include where possible an identification of the consequences of the funding gap on program quality and student access This review should include the system's plans and priorities for maintaining their mission under current state funding scenario, accompanied by recommendations to the Governor and the Legislature on future state policies for financing the CCC A preliminary review should be forwarded to the Governor, Legislature, and CPEC by December 15, 1991 The segment's final report shall be transmitted to the Governor, Legislature, and CPEC by April 1, 1992 CPEC shall comment on the segment's final report, and transmit its comments to the Governor and Legislature by May 1, 1992 The final segmental report should be managed so as to invite public comment on the board's recommendations

Student Aid Commission

The Legislature requests the Student Aid Commission (SAC) to document the extent of the gap, if any, between state appropriations for the commission's Cal Grant programs and funding that is needed to fully support the grant programs' current mission under the state Master Plan for higher education The review shall include where possible an identification of the consequences of the funding gap on student access and on how students meet the costs of their education when grant funds are inadequate This review should include the commission's plans and priorities for maintaining their mission under current state funding scenario, accompanied by recommendations to the Governor and the Legislature on future state policies for financing the Cal Grant programs A preliminary review should be forwarded to the Governor, Legislature, and CPEC by December 15, 1991 The SAC's final report shall be transmitted to the Governor, Legislature, and CPEC by April 1, 1992 CPEC shall comment on the segment's final report, and transmit its comments to the Governor and Legislature by May 1, 1992 The final segmental report should be managed so as to invite public comment on the SAC's recommendations

Student Expense and Resource Survey (SEARS) Study

Student Aid Commission

It is the intent of the Legislature that the Student Aid Commission (SAC) conduct what has become known as the Student Expenses and Resources Survey (SEARS) to obtain information about the parental income, parental contribution, student income, student work hours, grant and scholarship aid, borrowing, and other pertinent economic information about all students enrolled in California's public and private colleges and universities in 1991-92

The survey should be conducted so as to produce statistically reliable information for student subgroups stratified by dependency status, part/full-time fee paying status, level of instruction (including upper- and lower-division), residency status, gender, ethnicity, and credit/noncredit enrollment status

By April 1, 1992, the commission is to conduct a preliminary analysis of the survey data and transmit a report containing the results of that analysis to the Legislature, the Governor, the UC, the CSU, the CCC, the Association of Independent California Colleges and Universities, and CPEC, with a final analysis to be transmitted to those parties by September 1, 1992 The final analysis shall compare the findings from the 1991-92 survey with those from previous SEARS surveys

In conducting the survey and the subsequent analysis, the commission is to consult with representatives from the UC, the CSU, the CCC, the Association of Independent California Colleges and Universities, and CPEC Upon completion of the survey, both the weighted and unweighted data obtained from the survey shall be transmitted in the appropriate format to each of these representatives

Student Fee Policy Study

It is the intention of the Legislature that CPEC shall coordinate an intersegmental review of student fee and financial aid policies in California Such review shall be conducted by the Commission in consultation with an advisory committee of the appro-

priate fiscal and policy committees of the Legislature, the Legislative Analyst, the Governor's Office, the State Department of Finance, representatives of the California State University (CSU), California Community Colleges (CCC), University of California (UC), Hastings College of the Law, the California Maritime Academy, Association of Independent California Colleges and Universities, Student Aid Commission (SAC), affected student groups, and other entities as appropriate The review shall include, but need not be limited to, the following

a An analysis of the total costs to the state of the instructional mission in the three segments of public higher education, in comparison, to the extent possible, to comparable public and private institutions in California and nationally

b Alternative student tuition, fee, and financial aid policies, and their consequences upon general fund revenues, student access, and financial aid requirements

c Discussion of future State policy on who should pay what share of the costs of higher education

d A review of the relative advantages or disadvantages of raising student tuition as a source of general fund revenue as contrasted with maintaining reduced funding for the current Master Plan missions

Particular attention shall be paid to the consequences of all tuition and fee alternatives on the state's historic policies of access, choice, equity, and quality (including breadth of the instructional program, average student time to degree, and total cost of the baccalaureate to the student), with identification of any sub-group most likely to suffer negative consequences as a result

Preliminary analysis of these issues shall be provided to the Governor and Legislature by December 15, 1991, with final recommendations on long-range policy to be provided by April 15, 1992 The Commission shall ensure adequate opportunity for public review and comment on its analysis and recommendations before forwarding them to the Governor and Legislature

Appendix B: Methodology of the Study

THIS APPENDIX describes the methodology utilized by the Commission staff to analyze data on levels of state costs for the instructional mission and of educational and general expenditures of the California State University, the University of California, and their comparison institutions, and it provides definitions of basic terms used throughout the report in order to assist readers in understanding how the Commission arrived at the estimates in the document

Calculating state costs for the instructional mission

To calculate the costs to the State of funding the instructional mission in California public higher education, the Commission consulted with representatives from the systemwide offices of the California Community Colleges, the California State University, and the University of California to develop common understandings of the data and methodologies to be used

California Community Colleges and the California State University For the California Community Colleges and the California State University, the determination of average expenditures per full-time-equivalent student was simply a matter of dividing the fund-source totals for each system during 1991-92 by their full-time-equivalent student (FTES) enrollment for that year For the community colleges, the advisory committee recommended that General Fund and local property tax revenues not be shown separately, since the community colleges' State funding formula presently makes their level of State General Fund support dependent on their amount of local property tax revenues As a result, the "per-student" government support figures reported for the community colleges in earlier pages of this document represent a combination of State General Fund and local assistance revenues -- unlike those support figures for the State University and the University of California, which are entirely from the State General Fund Displays 30-32 on pages 72-73 show the calculations involved in these community college and State University figures

University of California For the University of California, the Commission staff developed a detailed methodology to remove funds not related to general campus instruction from its calculations of average State support per student Essentially these calculations removed expenditures for health science, organized research, and public service from the University's "Gen-

DISPLAY 30 *Calculation of Average Per-Student Revenues, by Revenue Source and Expenditure Category, of the California Community Colleges for Local Assistance Program and State Operations (with Credit and Non-Credit Enrollments) for 1991-92, with Dollars in Thousands Except for Per-Full-Time-Equivalent-Student (FTES) Revenues*

"Local Assistance" and "State Operations" Revenues and Expenditures, for Credit and Non-Credit FTES Enrollment

1991-92 Revenues			
State General Funds	$1,695,316 a, b	State General Funds	$12,210
State Enrollment Fees (Net)	84,956 b		
Local Property Tax Revenues	831,269 b	**Total State Operations**	**$12,210**
Lottery Revenues	75,838		
Total Local Assistance	**$2,687,379**	***TOTALS, Local Assistance & State Operations Revenues***	***$2,699,589***

Expenditure Categories	Credit	Non-credit	Total
Apportionments	$2,314,265 b	$116,967 b	$2,431,232 b
Basic Skills Growth	13,456	544	14,000
EOPS (EOPS, BFAP, CARE)	36,551	0	36,551
Disabled Students	29,043	2,663	31,706
Matriculation	39,212	0	39,212
State Mandated Local Costs	7,143	655	7,798
Other (combined) c	47,051	3,991	51,042
Subtotal, Local Assistance Expenditures	$2,486,721	$124,820	$2,611,541
Lottery Revenue	69,467	6,371	75,838
Total, Local Assistance Expenditures	$2,556,188	$131,191	**$2,687,379**
State Operations	--	--	12,210
TOTALs, State Ops & Local Asst. Expenditures	$2,556,188	$131,191	***$2,699,589***
1991-92 FTES Enrollments			
Regular Apportionment	771,675	70,979	842,654
GAIN (State Funded)	1,542	125	1,667
Basic Skills	4,725	330	5,055
Total State Funded (workload) FTES	777,942 d	71,434 d	849,376 d
Unfunded FTES	63,105	3,075	66,180
Grand Total (Actual) FTES	*841,047*	*74,509*	*915,556*
State-Funded (workload) FTES Enrollment	777,942	71,434	849,376
TOTALs, State Op's and Loc. Asst. Revenues per FTES	**$3,286**	**$1,837**	***$3,178***

Footnotes

a. General Funds include "State School Fund" monies ($1 754 million) that are federal mineral and oil fund revenues. Excluded here are $8 056 million in deferred maintenance funds not available to the system until the 1992-93 year

b. These numbers reflect the actual revenue information used in the calculation of apportionments for the community colleges, as of February, 1993

c. Includes the following programs Apprenticeship, GAIN - State, Puente Project, Faculty and Staff Diversity, Economic Development, Middle College, ASSIST, 2+2+2, Academic Senate, Employer-Based Job Training, Underrepresented Students, Deferred Maintenance, Hazardous Materials, and various other programs.

d. These FTES totals reflect a 1% deficit in general apportionments, only these "State-Funded" FTES are used for the "revenues per FTES" calculations shown here

Sources *Governor's Proposed Budget, 1993-94, California Community Colleges Chancellor's Office, and supplemental information.*

DISPLAY 31 *Calculation of Average Per-Student Revenues, by Revenue Source, of the California Community Colleges for Combined Local Assistance Program and State Operations (with Credit and Non-Credit Enrollments) for 1991-92, with Dollars in Thousands Except for Per-Full-Time-Equivalent-Student (FTES) Revenues*

Calif Community Colleges 1991-92 Revenue Sources		*CCCs 1991-92 FTES Enrollment*		*Revenues per Total CCC FTES*	
State General Funds	$1,707,526 a, d	Credit	777,942	–	
Local Property Tax Revenues	831,269	Non Credit	71,434	–	
Combined	2,538,795 b, d	Total	849,376 c	$2,989	
State Enrollment Fees (Net)	84,956			100	
Lottery Revenues	75,838			89	*Recalculation*
Totals	$2,699,589	TOTALs, "Average Exped." per FTES		[redacted]	$3,178 32

Footnotes

a. CCC State General Funds shown here include both the "Local Assistance" and "State Operations" categories of funding and $1 754 million from the "State School Fund" (federal oil and mineral revenues) Excluded here are $8 056 in deferred maintenance funds not available to the system until the 1992-93 year

b. Present State statute determines Community College General Funds levels based upon the level of Local Property Tax Revenues anticipated to be available, thus, only "$'s per FTES" enrollment for these two sources in combination are displayed here

c. These FTES totals reflect a 1% deficit in general apportionments, ONLY "State-Funded" FTES are used for the "$'s per FTES" calculations shown here

d. These numbers reflect the actual revenue information used in the calculation of apportionments for the community colleges, as of February, 1993

Sources *Governor's Pro . . . Budget, 1993-94, California Community Colleges Chancellor's O ice, and supplemental information*

DISPLAY 32 *Calculation of Average Per-Student Revenues, by Revenue Source, of the California State University for 1991-92, with Dollars in Thousands*

CSU "Average Expenditures" per FTES

1991-92 Full-Time Equivalent Students (FTES) [270,729]

	1991-92 Expenditures	(per FTES)
State General Fund	$1,634,366	$6,037
Student Fee Revenue (State University Fee)	305,623	1,129
Lottery Revenue	27,197	100
Other Revenue Sources (Receipts) a	77,197	285
"Average Expenditures," All Sources	$2,044,383	$7,551

Footnotes

a. "Other Revenue Sources (Receipts)" includes non resident and application fees, contract and grant overhead, and miscellaneous revenues

Sources *Governor's Proposed Bud . . . 1993-94, California State University, Office of the Chancellor, and supplemental information.*

eral Purpose Funds'' (the combination of State General Funds and most General University Funds) Similar calculations were performed to remove those costs from the University's Systemwide Student Fee revenue, Lottery revenue, and the remaining portion of General University Fund revenue Displays 33 and 34 on pages 74 and 75 show these calculations in detail

DISPLAY 33 *State Funding of Actual General Campus Expenditures for Instruction-Related Activities of the University of California for 1991-92, with Dollars in Thousands Except for Final Per-Full-Time-Equivalent-Student (FTES) Revenues*

Calculation of UC General Purpose Fund (G P F s) for Instruction-Related Expenditures

Expenditure Categories	{1} *1991-92 UC General Purpose Funds (G.P.F s)*	{2} *G.P.F Expend Not Related to Gen Camp I-R*	{3} *% G.P.F Expend Not Related to Gen Camp. I R*	{4} *G.P.F support Not Related to Gen. Camp I-R* (d)	{5} *Net G.P.F s for General Campus I R* (e)	{6} *Calculations of selected subtotal, total & discount numbers from {5}* (j)
Instruction & Research	$1,206,149	$270,309 (a)			$935,840	
Organized Research	179,616	179,616			0	
Public Service	52,613	52,613			0	
Organized Activities	99,143	64,443 (b)			34,700	
Teaching Hospitals	57,075	57,075			0	{1} - {2}
Subtotal ONE	$1,594,596	$624,056	*39.14* % (c)		$970,540	970,540 05 {6}
Support Activities						
Libraries	$68,495			$26,806	$41,689	
Student Services	29,754			11,644	18,110	
Institutional Support	235,765			92,268	143,497	
Plant Maint. & Operation	239,714			93,814	145,900	
Student Financial Aid	56,468			22,099	34,369	
Provisions for Allocation	117,701			46,063	71,638	{1} - {4}
Subtotal TWO	$747,897			$292,695	$455,202 (g)	455,202 44 {6}
						{5 (sub's1+ 2)}
TOTALs, G.P.Fs	$2,342,493 (f)	*(TOTALs Non I R UC G.P.Fs discount)*		$916,751	$1,425,742 (h)	1,425,742 49 {6}
Discount		*(Amount of General Purpose Funds represented by UC Gen Univ Funds)*			-144,208 (i)	144,207 66 {6}
State General Funds for General Campus Instruction - Related Activities		*(Net S G.Fs)*			$1,281,535 (j)	*see footnote (l)*
NET State General Funds		*(S.G.F s used exclusively for Instruction-Related Activities)*			$1,281,535	10 115 %
General Campus FTES Enrollment		*(Actual UC FTES - excludes Health Sciences enrollment)*			143,808	
1991-92 UC General Campus Instruction-Related S.G F Expenditures per FTES					$8,911	

Footnotes

a. These monies are budgeted expenditures for Health Sciences instruction and research.

b. This is the proportion of the General Purpose-funded (G P F s) "Organized Research" budget that is expended on Health Sciences-related activities and, thus, is to be excluded here. This number is derived from campus-level budget detail and is provided by the UC Office of the President.

c. The percentage of G P F s expenditures NOT related to general campus instruction. Calculated by dividing the "subtotal" of column {2} by "subtotal ONE" in column {1}.

d. The proportion of UC G P Fs spent for functions NOT related to General Campus instruction-related activities (I-R). UC G P Fs from column {1} are discounted by this amount to determine net " I-R" UC G P Fs. It is calculated by multiplying "subtotal ONE" in column {1} by the percentage (39 14) shown in column {3}.

e. The proportion of G P Fs used for general campus I-R costs. Calculated by subtracting the "subtotals" for both columns {2} and {4} from "subtotal ONE" in column {1}.

f. "Provisions for Allocation" includes $43 94 million for lease-purchase payments, the calculation to remove these funds ("$'s per FTES, excluding lease-purchase funds) is as follows: $2,287,810 [43,941 + 878,153] = $1,365 716, 1,365 716 x 0 07966 = $108,793. 1,365,716 - 108,793 = $1,256,923. 1,256,923 / 143,808 {FTES} = $8,740.

g. Net G P Fs used for support general campus I-R activities. Calculated by subtracting the "subtotal" from column {4} from "subtotal TWO" in column {1}.

h. This number is total UC "General Purpose Funds" for I-R activities, it is calculated by adding together "subtotal ONE," column {5} and "subtotal TWO," column {5}.

i. This is the amount of UC "General Purpose Funds" that are exclusively General University Funds (G U Fs), and not S G Fs. See footnote (l) for details on this calculation.

j. "Net S G F.s" represent total UC S G F s used exclusively for I-R activities, after non-related expenditures, and non-S G F revenues, are removed.

k. The numbers in column {6} consist of explanations and re-calculations of some of the dollar amounts in column {5} in order to double-check selected of these data.

l. "I-R" G P Fs that are exclusively UC G U Fs (not S G Fs) is calculated by dividing G U Fs by the combined S G Fs and G U Fs for 1991-92, that percentage (7 966%) is multiplied by "Total non I-R UC G P.Fs" ($1 392 billion), from column {5}, footnote (h), to arrive at the $110 925 million defined in footnote (i).

Sources *Governor's Proposed Budget, 1993-94. University of California, Office of the President, and supplemental information.*

DISPLAY 34 *Funding by Source for Actual General Campus Expenditures for Instruction-Related Activities of the University of California for 1991-92, with Dollars in Thousands Except for Final Per-Full-Time-Equivalent-Student (FTES) Revenues*

UC Revenue Sources for Instruction-Related Activities	Actual UC General Campus 1991-92 FTES Enrollment		143,808	
	{1}	{2}	{3}	
Revenue Sources	*Fund Totals*	*Instruction Related (I-R) Funds*	*I-R Funds per FTES* e	*Re-calculations "multipliers"*
General University Funds	$236,933	$144,208 a	$1,003	60 8642 %
Systemwide Student Fees (S S F)	328,550	310,480 b	2,159	94 5000
Lottery Revenues	14,518	13,647 c	95	93 9989
State General Funds	2,105,560	1,281,535 d	8,911	{2 Tot} / 143,808
TOTALs, "Average Revenues" per FTES	$2,685,561	$1,749,869	$12,168	$12,168 09

Footnotes

a. This is the net amount of General University Funds not accounted for in the calculations of UC "General Purpose Funds" done in Display 1a.

b. This is the proportion of the Systemwide Student Fees (S S F s) used for non-health science related activities. For 1991-92, this number is approximately 94 5 percent of total S S Fs, this estimate is provided by the UC Office of the President.

c. This is the proportion of the Lottery Funds used for non-health science related activities. For 1991-92, this number is approximately 94 percent of total Lottery Funds, this estimate is provided by the UC Office of the President.

d. This is the net amount of General Campus Instruction-related State General Fund expenditures calculated and described in Display 1a.

e. These numbers are the net amounts of each fund source used for general campus instruction-related activities for each FTES in the University for 1991-92

NOTE Some of the "totals" presented here will not equal the sum of amounts listed in the columns due to rounding of the cents generated by the calculations

Sources Governor's Proposed Budget 1993-94, University of California, Office of the President, and supplemental information

Choosing basic sources of information on institutional expenditures

The information on instructional expenditures used in this study was taken from four major sources (1) the Integrated Postsecondary Education Data System (IPEDS) of the National Center for Education Statistics in the United States Department of Education, (2) Research Associates of Washington, (3) the Legislative Analyst's *Analysis of the State Budget* for fiscal year 1989-90, and (4) the California State University's *Support Budget* for fiscal year 1989-90

The major source of data was the first of these four -- the Integrated Postsecondary Education Data System of the National Center for Education Statistics (NCES) The National Center is directed by law to collect statistics on the condition of education in the United States, to analyze and report the meaning of these statistics, and to assist states and local education agencies in improving their education information systems In carrying out these responsibilities, the Center supports a wide range of statistical reporting and analytical activities including annual surveys of institutional activity and resources

The Integrated Postsecondary Education Data System is the Center's core postsecondary education data collection program Formerly called the "Higher Education General Information Survey" (HEGIS), it is designed as a single, comprehensive system to encompass all institutions and educational organizations whose primary purpose is to provide postsecondary

education The System is built around a series of interrelated surveys to collect institution-level data in such areas as institutional characteristics, enrollments, program completions and degrees awarded, staff composition, faculty salaries, tenure and fringe benefits, and financing

Annually, the National Center sends survey forms to state-level and systemwide higher education offices with detailed instructions on what data should be included and what should be excluded In California, the Postsecondary Education Commission receives these survey forms from the National Center and sends them to the systemwide offices of the three public systems -- the University of California, the California State University, and the California Community Colleges -- which then distribute them to their campuses and coordinate the return of the forms to the Commission The Commission sends the survey forms directly to California's independent colleges and universities and collects them back from those institutions The Commission then sends all of the information submitted by California's postsecondary institutions to the National Center in Washington, D C

The National Center subjects the data from each state to a series of edits, checking for internal consistencies within the responses themselves (for example, making sure the rows and columns add up) and also checking the data against prior year submissions to see if they make sense It highlights large discrepancies from one year to the next and then contacts the institutions involved directly for clarification

The Integrated Postsecondary Education Data System provides data for analyzing and reporting such statistics as trends in enrollment and degree completion by sex and race/ethnicity, patterns of expenditures and revenues of institutions, patterns of student costs and faculty composition, and types and numbers of institutions The data are used by the National Center for annual reports on the condition of postsecondary education, statistical digests, and other purposes Federal financial aid staff use the survey data to address policy issues on student aid programs, and federal commissions use the data to monitor compliance with federal legislation and to examine trends in educational programs Policy makers at the regional and state level use the data for comparative analysis, and the National Center encourages use of the data at state and institutional levels for statewide and institutional research, policy analysis, and planning

The main body of information from IPEDS that the Commission has analyzed for this report is contained in the "Current Funds Expenditures and Transfers" section of the IPEDS finance reporting form To eliminate reporting discrepancies in these primary data, the Commission utilized the comprehensive information contained in *Higher Education Revenues and Expenditures: Institutional Data, 1989-90,* by Kent Halstead of Research

Associates of Washington, which also uses IPEDS data as its primary source, and it then verified these data for California's two public universities and their faculty-salary comparison institutions with those institutions directly

Agreeing on relevant expenditure categories

In consultation with representatives of the University of California and the California State University, staff of the Commission used five categories of data from IPEDS on funds used to account for instructionally related current operations spending at these institutions and their comparison groups -- Instruction, Academic Support, Student Services, Institutional Support, and Operations and Maintenance of Plant These five categories are generally accepted nationwide as appropriate accounts for operating expenses in postsecondary education, and California uses them in its State budgeting process for higher education As they pertain to California's public four-year segments, the five categories are defined as follows

1 *Instruction Expenditures of the colleges, schools, departments, and other instructional divisions of the institution and expenditures for departmental research and public service that are not separately budgeted are included in this classification Expenditures for both credit and non-credit activities are included. Expenditures for academic administration where the primary function is administration (e g , academic deans) are excluded*

   The Instruction category includes general academic instruction, occupational and vocational instruction, special session instruction, community education, preparatory and adult basic education, and remedial and tutorial instruction conducted by the teaching faculty for the institution's students

At the University of California, "general campus instruction" includes most of the resources associated with the schools and colleges located on its campuses At the California State University, "regular instruction" includes the instructional programs operating during the academic year that are managed by the regular academic departments At both universities, this category includes expenditures for faculty, teaching assistants, instructional support staff, and supplies and equipment that are a part of their formal degree or certificate curriculum programs Excluded from the analysis are both system' self- supported extension programs

As noted in Parts One and Three of this report, this category includes all faculty compensation, even though institutions may require research and public service activities of their faculty in addition to instruction As is described later, substantial adjustments were required in some cases to account for the mixed faculty mission financed under the somewhat generic cost center of faculty compensation

2 *Academic Support. This category includes expenditures for the support services that are an integral part of the institution's primary mission of instruction, research, or public service Expenditures for libraries, museums, galleries, audio/visual services, academic computing support, ancillary support, academic administration, personnel development, and course and curriculum development are included. Expenditures for veterinary and dental clinics are included if their primary purpose is to support the institutional program*

At both the University of California and the California State University, the largest function of the academic support program is to provide for library and audiovisual services to students and faculty University of California libraries serve both the instructional and research needs of the campuses and the research community, while State University libraries house data processing services and data collection and dissemination support for activities such as nursery schools, college farms, marine science facilities, and other ancillary programs

3 *Student Services: Funds expended for admissions, registrar activities, and activities whose primary purpose is to contribute to students' emotional and physical well-being and to their intellectual, cultural, and social development outside the context of the formal instructional program Examples are career guidance, counseling, financial aid administration, and student health services (except when operated as a self-supporting auxiliary enterprise) The administrative allowance for Pell Grants is included*

The student services programs of both the University of California and the California State University fund activities designed to contribute to the students' physical well-being and intellectual, cultural and social development outside of the context of the formal instruction program They include expenditures for organized Student Service administrative activities like counseling and career guidance, student admissions and records and student health services Additionally, this cost category houses administrative expenses for student affirmative action programs in both segments Included here are the University's Early Outreach, Undergraduate Minority Scholars, and Graduate and Professional Student Affirmative Action Programs and the State University's State University Grant Program, Educational Opportunity Program, and various disabled students services programs

4 *Institutional Support Expenditures for the day-to-day operational support of the institution, excluding expenditures for physical plant operations Expenditures for general administrative services, ex-*

ecutive direction and planning, legal and fiscal operations, and public relations/development are included

Although systemwide administrative expenditures have been excluded from this study, activities funded within this function include planning, policy making and coordination within the offices of the systemwide offices, campus level administration, and the governing boards for the University and State University Specific operations include such day-to-day functions as accounting, campus police, payroll and personnel, and publications At the University, this category also includes federal program administration and certain self-supporting services such as telephones, garages and equipment pools At the State University, the development of management policies and the provision of communications, purchasing and inventory control, and legal services are funded out of the Institutional Support program

The IPEDS financial form collects information on expenditures for maintenance of higher education facilities as a separate category from "Institutional Support," and therefore the State University reports Physical Plant Operation separately rather than as a sub-category under "Institutional Support " Following the IPEDS format, the State University's Physical Plant Operations expenditures have been taken out of Institutional Support and reported as Plant Operation, consistent with similar expenditures at the University

5 *Plant Operation All expenditures for operations established to provide service and maintenance related to grounds and facilities used for educational and general purposes Expenditures for utilities, fire protection, property insurance, and similar items are also included. Expenditures made from the institutional plant funds account are not included*

This expenditure category includes the University's "Operation and Maintenance of Plant" program and the State University's "Physical Plant Operations " It includes resources for the maintenance, preservation, and renewal of State-supported physical plant space in both segments Major components of this category include the maintenance of electrical, heating, and plumbing systems, buildings and grounds maintenance, janitorial services, and painting and structural repairs

Excluding irrelevant expenditure categories

For its analysis of expenditures related to the accomplishment of institutions' instructional missions, the Commission staff has set aside IPEDS' other expenditure categories such as "Auxiliary Enterprises," "Public Service," "Research," and "Scholarships " It includes definitions of "Research" and "Public Service" below, however, because they are part of the general reporting categories for research institutions

Research· This category includes all funds expended for activities specifically organized to produce research outcomes and commissioned by an agency either external to the institution or separately budgeted by an organizational unit within the institutions Non-research sponsored programs (e g , training programs) are not included.

Under the State's Master Plan for Higher Education, the University of California is the State's primary research agency It conducts basic and applied research for state and national entities, both public and private, as a part of its educational mission This research -- along with departmental or instruction-related research -- provides training for scholars in their advanced graduate and professional instruction programs The State University's research focus is typically limited to the provision of grants and leaves for faculty to conduct research expected to improve classroom instruction by keeping faculty members aware of current developments in their fields of study

Public Service All funds budgeted specifically for public service and expended for activities established primarily to provide non-instructional services beneficial to groups external to the institution Examples are seminars and projects provided to particular sectors of the community. Expenditures for community services and cooperative extension services are included

Public service is a substantial part of the educational mission of the University of California, and the State spends more than $50 million a year in this category Activities funded here include the University's Cooperative Extension, Lawrence Hall of Science, California Writing and Math Projects, and several other programs These activities are designed either to increase access to historically underrepresented groups to the University or to help local communities develop their resources The State University runs a much smaller public service program (funded at just over $1 million a year) that is designed to assist the general public

Agreeing on definitions of instructional expenditure

In consultation with representative of the University of California and California State University, the Commission developed these four definitions for its basic analysis of instructional expenditure

Reported Instructional Expenditures Total instructional expenditures reported to IPEDS by postsecondary institutions

Direct Instructional Expenditures Expenditures in the Reported Instructional Expenditures category, adjusted by eliminating expenditures for non-instructional activities For the University this expenditure equals the IPEDS

Reported Instructional Expenditures, less 30 5 percent for expenditures related to research and 15 2 percent for expenditures related to public service For the State University, no adjustment to Reported Instructional Expenditures was made

Adjusted Instructional Mission Expenditures An amount equal to the sum of instructional and instructionally-related expenditures including Direct Instructional Expenditures and Student Services plus an amount equal to total Academic and Institutional Support and Maintenance and Operation of Plant less overhead for organized Research and Public Service For the State University, no adjustments to the mixed-use expenditure categories were made

General Operations Expenditures The sum of five expenditure categories, including Reported Instructional Expenditures and Student Services, plus an amount equal to total Academic and Institutional Support and Maintenance and Operation of Plant less overhead for organized Research and Public Service The organized Research and Public Service expenditure categories are not included in this definition

Calculating direct instruction and instructional mission expenditures on a per-student basis

The Commission undertook a four-step process for these calculations

Step One: Adjustments for exclusively instructional expenditures to determine Direct Instructional Expenditures

For institutions with research or public service missions, such as the University of California and its comparison institutions, the Commission made adjustments in the Reported Instructional Expenditure category to exclude expenditures related to these functions In the case of the University, segmental advisors provided a figure of 30 5 percent as the amount of Reported Instructional Expenditures that are related to research, and a figure of 15 2 percent as the amount of Reported Instructional Expenditures that are related to public service These amounts were subtracted from the Reported Instructional Expenditure category and added to the "Research" and "Public Service" expenditure categories, respectively Having removed the non-instructional expenditures, the remaining amount is reflected in the Direct Instructional Expenditure category, since it represents expenditures directly related to instruction for a given institution

It should be noted that this approach is based on the assumption that all research universities in a particular Carnegie classification are similar in the extent of time their faculty devote to instructional vs non-instructional activities While the adjustments employed in this study reflect national norms reported in nationwide studies of faculty use of time, possible variations between individual institutions mean that comparisons of

Direct Instructional Expenditures among different institutions must be made with caution

In the case of the State University and its mission-similar institutions, no additional adjustment was made Therefore the Reported Instructional and Direct Instructional Expenditure figures presented for those institutions are the same

Step Two: Adjustments for exclusively instructional expenditures of the mixed-use expenditure categories to determine Adjusted Instructional Mission Expenditures.

The Commission excluded the non-instructional expenditures in the mixed-use expenditure categories of "Academic Support," "Institutional Support," and "Maintenance and Operation of Plant" by extracting and reapportioning funds based on the percentage of expenditures the institutions devote to Direct Instruction and Student Services (which is exclusively instructional or instructionally-related) This was done to isolate the instructionally-related expenditures in those mixed-use categories from expenditures devoted to research and public service (which is exclusively non-instructional) Once the non-instructionally related expenditures have been removed, the remaining amounts in the five expenditure categories of Direct Instruction, Student Services, Academic Support, Institutional Support and Maintenance and Operation of Plant are added together and are presented as the Asdjusted Instructional Mission Expenditures category In the case of the State University and its mission-similar institutions, no adjustment was made Therefore, the Adjusted Instructional Mission Expenditures and General Operations Expenditures presented for those institutions are the same

Step Three: Adjustments for exclusively instructional expenditures of the mixed-use expenditure categories to determine General Operation Expenditures.

The Commission excluded the non-instructional expenditures in the mixed-use expenditure categories of "Academic Support," "Institutional Support," and "Maintenance and Operation of Plant" by extracting and reapportioning funds based on the percentage of expenditures the institutions devote to Reported Instruction and Student Services, as compared to funded research and separately budgeted public service Once the non-instructionally related expenditures have been removed, the remaining amounts in the five expenditure categories of Reported Instruction, Student Services, Academic Support, Institutional Support and Maintenance and Operation of Plant are added together and are presented as the General Operations Expenditures category

Step Four: Calculating expenditures on a per-student basis

Lastly, the Commission utilized the data in all four expenditure categories -- Reported Instructional Expenditures, Direct Instructional Expenditures, Adjusted Instructional Mission Expenditures, and General Operations Expenditures -- divided by full-time equivalent enrollment, to yield the expenditures-per-student figures reported earlier in this document

The methodology outlined in those steps can be described by the following formulaic equations

Basic IPEDS categories

(Reported) Instruction = RI
Student Support = SS
Academic Support = AS
Institutional Support = IS
Maintenance and Operation of Plant = MOP
Funded Research = R
Public Service = PS
Full-Time Equivalent Enrollment = FTE

Adjustments for General Operations estimates

Adjusted Academic Support $AAS_1 = [(RI + SS) / (RI + SS + R + PS)] * AS$
Adjusted Institutional Support $AIS_1 = [(RI + SS) / (RI + SS + R + PS)] * IS$
Adjusted MOP $AMOP_1 = [(RI + SS) / (RI + SS + R + PS)] * MOP$
Adjusted Research $AR_1 = [R]$
General Operations Expenditures $[RI + SS + AAS_1 + AIS_1 + AMOP_1]$

Adjustments for Adjusted Instructional Mission estimates

Adjusted (for Direct) Instruction DI =
[RI] for Comprehensive 1 institutions
[RI (53)] for Research 1 institutions
[RI (75)] for Research 2 and Doctoral 1 and 2 institutions

Adjusted Research $AR_2 = [R + (RI - DI)]$
Adjusted Academic Support $AAS_2 = [(DI + SS) / (DI + SS + AR_2 + PS)] * AS$
Adjusted Institutional Support $AIS_2 = [(DI + SS) / (DI + SS + AR_2 + PS)] * IS$
Adjusted MOP $AMOP_2 = [(DI + SS) / (DI + SS + AR_2 + PS)] * MOP$
Adjusted Instructional Mission Expenditures $[DI + SS + AAS_2 + AIS_2 + AMOP_2]$

Final Calculations

Reported Instructional Expenditures per FTE [RI / FTE]
Direct Instructional Expenditures per FTE [DI / FTE]
Adjusted Instructional Mission Expenditures per FTE $[(DI + SS + AAS_2 + AIS_2 + AMOP_2) / FTE]$
General Operations Expenditures per FTE $[(RI + SS + AAS_1 + AIS_1 + AMOP_1) / FTE]$

Because full-time equivalent (FTE) student enrollment numbers are so germane to the analysis provided in this report, a discussion of the technical definition of FTE is appropriate here As defined by IPEDS, FTE enrollment is the sum of the number of full-time students and the full-time equivalency of part-time students The full-time equivalent of part-time enrollment is a numeric conversion through which a student attending part-time is considered some fraction of a full-time student The actual fraction used on the conversion is a function of the part-time student's enrollment intensity (e g , number of credits in which enrolled) The sum of the fractions assigned to each part-time student is the total full-time equivalency of part-time students for a given institution Nationally, the accepted formula is that one part-time student is equal to one-third of one full-time student, or it takes three part-time students to make one full-time equivalent student Therefore, total FTE enrollment is equal to the sum of total full-time enrollment plus one-third of part-time enrollment

As with the expenditures data, in most cases FTE enrollment figures were obtained by Commission staff directly from the institutions involved in this study, or through the IPEDS data However, in order to present enrollment figures as accurately as possible for the two segments on which this study focuses, actual campus-by-campus FTE enrollment figures for 1989-90 were provided by the University and the State University It should be noted here that the University and the State University use different definitions of full-time enrollment upon which they base their FTE enrollment figures For the University, a full-time student is one who is enrolled in at least 15 undergraduate or 12 graduate credit units For the State University, a full-time student is one enrolled in at least 15 credit units

For all comparison institutions, FTE enrollment figures were obtained from IPEDS source documents The full-time equivalent enrollment count for these institutions is based on fall full-time enrollment plus one-third part-time enrollment using 15 credit units as the definition for full-time status As a measure of verification, Commission staff also obtained FTE enrollment figures directly from the University of California's faculty salary comparison institutions All discrepancies discovered were considered by Commission staff to be inconsequential to the results of the analysis discussed in this report

Classifying institutions for comparative purposes

This report estimates total education expenditures and full instructional and other functional expenditures per full-time-equivalent student at institutions that compare to the University and the State University by institutional sector control and type The universe of colleges and universities nationwide is defined by these two parameters of control and type

- Sector *control* -- public vs independent -- provides a fundamental and clear distinction between institutions
- *Type* distinguishes mission in terms of program level, scope and size, clientele, and ancillary research and public services activities A minimal type classification is the three-component division -- university, four-year colleges, and two-year colleges -- used by the National Center for Education Statistics

The Carnegie classification system provides a more comprehensive and mission-specific institutional definition for the comparison institutions involved in this study than that of the National Center The Carnegie system groups institutions on the basis of comprehensiveness of mission, program breadth, level and number of graduate degrees awarded, enrollment size, and research funding level The eight major categories of the Carnegie classification system are defined below

Research I Universities· Full range of baccalaureate programs, commitment to graduate education through doctorate degree, high priority to research Award at least 50 Ph D degrees each year (1984) Federal support received for research at least $33 5 million annually (1983-85)

Research II Universities: Same as above except federal support received for research is between $12 5 and $33 5 million annually

Doctorate-Granting I Universities Full range of baccalaureate programs plus a commitment to graduate education through the doctorate degree Award at least 40 Ph D degrees annually (1984) in five or more academic disciplines

Doctorate-Granting II Universities: Same as above but award annually 20 or more Ph D degrees in at least one discipline or 10 or more Ph D degrees in three or more disciplines

Comprehensive I Colleges Offer baccalaureate programs and, with few exceptions, graduate education through the masters degree More than half of the baccalaureate degrees are awarded in two or more occupational or professional disciplines such as engineering or business administration Enroll at least 2,500 full-time students (1982-84)

Comprehensive II Colleges· More than half the baccalaureate degrees awarded in two or more occupational of professional disciplines, and also may offer graduate education through the masters degree Enroll between 1,500 and 2,500 full-time students (1982-84)

Liberal Arts Colleges Primarily undergraduate colleges that award more

than half of their baccalaureate degrees in arts and science fields Also includes colleges that award *less* than half their degrees in liberal arts fields but, with fewer than 1,500 students, are too small to be considered comprehensive

Two-Year Colleges and Institutes: Offer certificate or degree programs through the Associate of Arts level and, with few exceptions, offer no baccalaureate degrees.

Bibliography

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CALIFORNIA POSTSECONDARY EDUCATION COMMISSION

THE California Postsecondary Education Commission is a citizen board established in 1974 by the Legislature and Governor to coordinate the efforts of California's colleges and universities and to provide independent, non-partisan policy analysis and recommendations to the Governor and Legislature

Members of the Commission

The Commission consists of 17 members. Nine represent the general public, with three each appointed for six-year terms by the Governor, the Senate Rules Committee, and the Speaker of the Assembly Six others represent the major segments of postsecondary education in California. Two student members are appointed by the Governor

As of June 1995, the Commissioners representing the general public are:

Henry Der, San Francisco; *Chair*
Guillermo Rodriguez, Jr., San Francisco; *Vice Chair*
Elaine Alquist, Santa Clara
Mim Andelson, Los Angeles
C Thomas Dean, Long Beach
Jeffrey I. Marston, San Diego
Melinda G Wilson, Torrance
Linda J Wong, Los Angeles
Ellen F Wright, Saratoga

Representatives of the segments are

Roy T. Brophy, Fair Oaks, appointed by the Regents of the University of California,

Yvonne W Larsen, San Diego; appointed by the California State Board of Education,

Alice Petrossian, Glendale; appointed by the Board of Governors of the California Community Colleges;

Ted J Saenger, San Francisco, appointed by the Trustees of the California State University,

Kyhl Smeby, Pasadena, appointed by the Governor to represent California's independent colleges and universities, and

Frank R. Martinez, San Luis Obispo, appointed by the Council for Private Postsecondary and Vocational Education.

The two student representatives are:

Stephen Lesher, Meadow Vista
Beverly A. Sandeen, Costa Mesa

Functions of the Commission

The Commission is charged by the Legislature and Governor to "assure the effective utilization of public postsecondary education resources, thereby eliminating waste and unnecessary duplication, and to promote diversity, innovation, and responsiveness to student and societal needs "

To this end, the Commission conducts independent reviews of matters affecting the 2,600 institutions of postsecondary education in California, including community colleges, four-year colleges, universities, and professional and occupational schools.

As an advisory body to the Legislature and Governor, the Commission does not govern or administer any institutions, nor does it approve, authorize, or accredit any of them. Instead, it performs its specific duties of planning, evaluation, and coordination by cooperating with other State agencies and non-governmental groups that perform those other governing, administrative, and assessment functions.

Operation of the Commission

The Commission holds regular meetings throughout the year at which it debates and takes action on staff studies and takes positions on proposed legislation affecting education beyond the high school in California By law, its meetings are open to the public Requests to speak at a meeting may be made by writing the Commission in advance or by submitting a request before the start of the meeting.

The Commission's day-to-day work is carried out by its staff in Sacramento, under the guidance of its executive director, Warren Halsey Fox, Ph.D , who is appointed by the Commission

Further information about the Commission and its publications may be obtained from the Commission offices at 1303 J Street, Suite 500, Sacramento, California 98514-2938, telephone (916) 445-7933

EXPENDITURES FOR UNIVERSITY INSTRUCTION

Commission Report 93-2

ONE of a series of reports published by the California Postsecondary Education Commission as part of its planning and coordinating responsibilities Single copies may be obtained without charge from the Commission at 1303 J Street, Fifth Floor, Sacramento, California 95814-2938 Recent reports include

92-25 *Meeting the Challenge Preparing for Long-Term Change in California Higher Education, by Warren H Fox Report of the Executive Director to the California Postsecondary Education Commission, August 24, 1992* (August 1992)

92-26 *California College and University Exchange Programs with Mexico A Staff Report in Response to a Request from the 1991 United State-Mexico Border Conference on Education* (October 1992)

92-27 *Appropriations in the 1992-93 State Budget for Higher Education A Staff Report to the California Postsecondary Education Commission* (October 1992)

92-28 *Legislation Affecting Higher Education During the Second Year of the 1991-92 Session A Staff Report to the California Postsecondary Education Commission* (October 1992)

92-29 *Eligibility and Participation in California's Public Universities in the Year 2000 Projections by the Staff of the California Postsecondary Education Commission* (October 1992)

92-30 *Proposed Construction of Folsom Lake College in the Los Rios Community College District A Report to the Governor and Legislature in Response to a Request from the Chancellor's Office of the California Community Colleges* (December 1992)

92-31 *Proposed Construction of the Lompoc Valley Center in the Allan Hancock Joint Community College District A Report to the Governor and Legislature in Response to a Request from the Chancellor's Office of the California Community Colleges* (December 1992)

93-1 *Legislative and State Budget Priorities of the Commission, 1993 A Report of the California Postsecon-dary Education Commission* (February 1993)

93-2 *Expenditures for University Instruction A Report to the Governor and Legislature in Response to Supplemental Report Language for the 1991 Budget Act* (April 1993)

93-3 *Faculty Salaries in California's Public Universities A Report to the Legislature and the Governor in Response to Concurrent Resolution No 51 (1965)* (April 1993)

93-4 *Executive Compensation in California's Public Universities, 1992-93 A Report to the Governor and Legislature in Response to the 1992 Budget Act* (April 1993)

93-5 *Status Report on Human Corps Activities, 1992 The Last in a Series of Five Progress Reports to the Legislature in Response to Assembly Bill 1820 (Chapter 1245, Statutes of 1987)* (April 1993)

93-6 *The Master Plan, Then and Now Policies of the 1960-1975 Master Plan for Higher Education in Light of 1993 Realities* (April 1993)

93-7 *The Restructuring of California's Financial Aid Programs and Its Short-Term Aid Policy Recommendations of the California Postsecondary Education Commission* (April 1993)

93-8 *Undergraduate Student Charges and Short-Term Financial Aid Policies at California's Public Universities Recommendations of the California Postsecondary Education Commission* (April 1993)

EXPENDITURES FOR UNIVERSITY INSTRUCTION

Commission Report 93-2